Emerging Technologies: The payoff of autonomic computing is still years away. PAGE 28 PeopleSoft reveals its JDE absorption plan. PAGE 10

COMPUTERWORLD

THE VOICE OF IT MANAGEMENT ▪ WWW.COMPUTERWORLD.COM SEPTEMBER 8, 2003 ▪ VOL. 37 ▪ NO. 36 ▪ $5/COPY

KATHERINE LAMBERT

Capital One CTO Roy Lowrance makes sure IT matches a company where workers are rarely in their offices.

ON-THE-FLY IT

More and more office cubicles are vacant, as employees work from conference rooms, customer sites, telework centers and even coffee shops. So leading companies are providing IT services to help these corporate nomads work virtually anywhere. PAGE 35

Security Breach at Web Host Leaves Sites at Risk

Visitors to thousands of sites left vulnerable to infection; provider says flaw has been fixed

BY JAIKUMAR VIJAYAN

An administrative error at Web hosting provider Interland Inc. may have caused thousands of hosted sites to become infected with malicious code.

Visitors to those infected Interland-hosted sites were in turn vulnerable to having their systems compromised by code that could allow them to be turned into proxy servers, a security expert said last week.

Atlanta-based Interland manages over 7,000 servers and hosts more than 250,000 Web sites for predominantly small and medium-size businesses. Jeff Reich, director of security at Interland, last week confirmed that a security breach caused disruptions in service for many of the hosted sites during the last week of August.

Reich said the security breach resulted in malicious HTML code being injected into the footers that appear at the bottom of Web pages hosted on Interland's servers. The code prevented infected Web pages from loading properly, causing some sites to become unavailable.

The company learned of the

Interland, page 12

INSIDE

Web hosting: C&W offers a new service while it continues to pull out of the U.S. market. **Page 12**

IT Links to Blackout Investigated

Feds search system logs for signs of sabotage

BY DAN VERTON
WASHINGTON

Federal and private-sector officials last week said they still can't rule out cybersabotage or IT-based failures as the cause of the Aug. 14 blackout.

Although no clear-cut evidence has been found to suggest that the blackout was the result of anything other than an internal technical failure, the FBI's Joint Terrorism Task

Blackout, page 51

9/11: TWO YEARS LATER

THE ASSOCIATED PRESS/AKIRA ONO

WALL STREET REMEMBERS: A July ceremony at the NYSE honoring firefighters and the U.S. Marine Corps. For financial firms, the USA Patriot Act has been another reminder of 9/11, and IT has had to hustle to comply.

Compliance Laws Vex IT

BY LUCAS MEARIAN

No matter how hard Wall Street firms try to dress them up with flowers and patriotic bunting, the concrete barricades outside their entrances are a constant reminder to Ravi Jethmal of the terrorist attacks that occurred two years ago just blocks from his Broad Street brokerage office.

Another reminder is the USA Patriot Act and its Oct. 1 deadline for compliance officers such as Jethmal to check the identities of new customers and monitor them to ensure that they're not laundering money for terrorists.

Compliance, page 5

INSIDE

- Two years later, the public/private partnership still needs work. Page 4
- Some CIOs are wary of security laws. Page 4
- Congress may see cybersecurity measures. Page 5

NEWSPAPER

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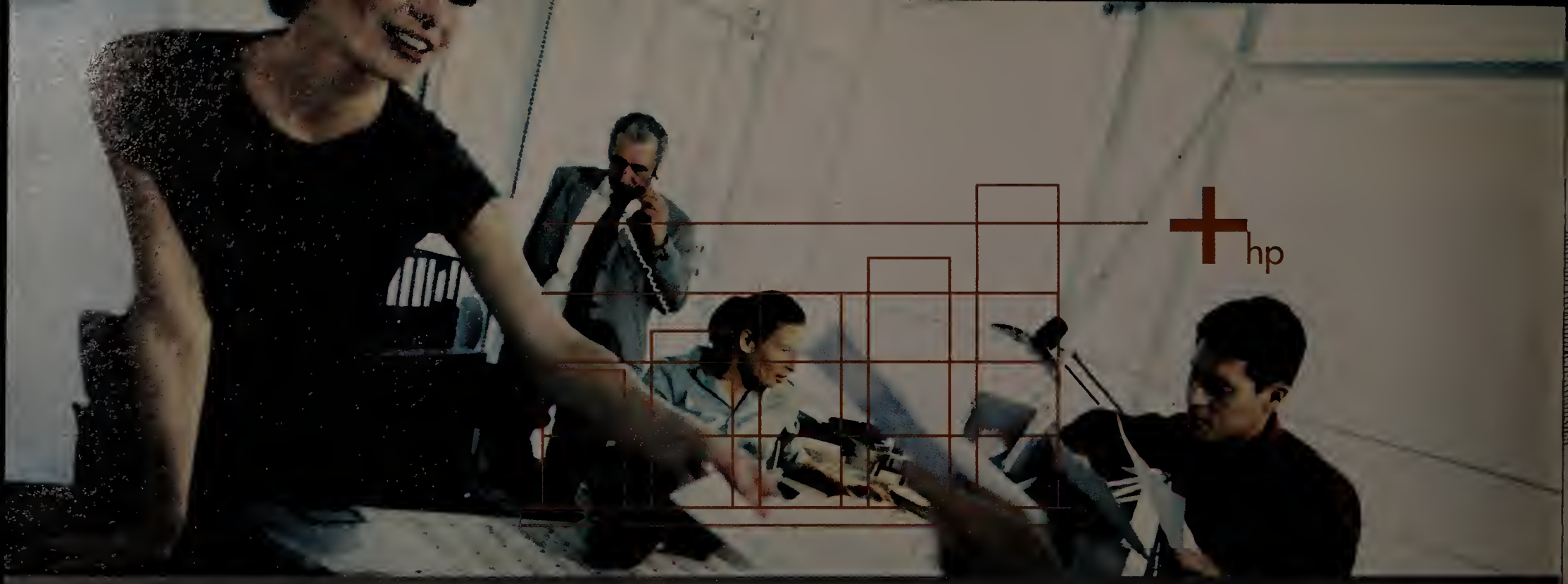

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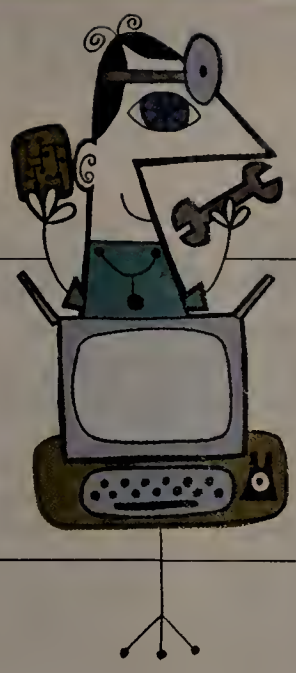

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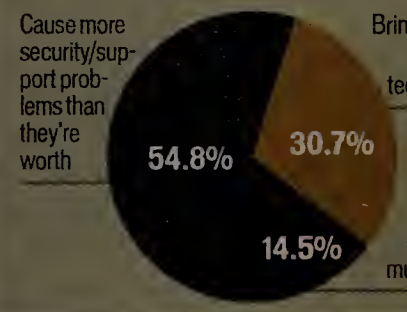

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SOURCE: *COMPUTERWORLD.COM* NONSCIENTIFIC SURVEY; 228 VOTES

Terrorism Fight Not Yet Taking Privacy Toll

The press makes it sound like privacy has been a casualty of the war against terrorism. Not true, argues Jay Cline, who separates the hype from the facts. QuickLink 41066

Three Steps to Protect Corporate Data

SECURITY: CIOs need to turn security inside out to steer clear of all the compliance icebergs, says Jim Schoonmaker, CEO of Liquid Machines. He offers guidelines for navigating the regulatory waters. QuickLink 40006

Those Who Learn Avoid the Worm

The emergence of the Blaster worm and its variants should have finally convinced users to download patches and keep their antivirus software up to date, writes columnist Douglas Schweitzer. QuickLink 41003

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Protection of Critical Systems Still Haphazard

Some progress made, but private/public partnership remains weak, experts say

BY DAN VERTON
WASHINGTON

TWO YEARS after terrorists killed 3,000 people, the government and the private sector are still struggling to define priorities for the security of the nation's critical infrastructure and to turn those priorities into real systems and programs.

THE ASSOCIATED PRESS

DHS CHIEF Ridge says threat analysis has improved.

"We've made significant progress toward shoring up the necessary layers of homeland security that have helped make America safer," said Secretary of Homeland Security Tom Ridge, speaking last week at the American Enterprise Institute in Washington.

Ridge credited the intelligence community's Terrorist Threat Integration Center and the Department of Homeland Security's Information Analysis and Infrastructure Protection Directorate with helping to improve threat analysis and information sharing.

While those efforts were desperately needed, security experts said progress has been slowed by the departure of cybersecurity czar Richard Clarke in February, when the DHS was formed. They said the department has a long way to go toward asserting its leadership in building a more solid relationship with the private companies that own and operate more than 85% of the nation's most critical facilities and information networks.

"From an information-sharing perspective, there has been progress, but much, much less than I had hoped for in two years," said John Pescatore, an analyst at Gartner Inc. in Stamford, Conn.

Allen Paller, research director at the Bethesda, Md.-based SANS Institute, painted a bleak picture of homeland security, one marred by competing interests.

"Since September 2001, the government and other critical-infrastructure institutions have installed more than 1 million Internet-connected systems with significant vulnerabilities," he said. "The staff who manage systems have fallen further behind in security skills, the automated attack tools have gotten more sophisticated and more effective, and the vendors have sent marketing people to Washington with the express purpose of keeping the government from exerting any real pressure on the vendors to improve the situation."

Paller added that "only the vendors have the economies of scale to reduce the global vulnerability to cyberattacks. But they will not act until the government recognizes it must use its procurement power to persuade them to act in the national and global interest."

Ken Watson, president of the Partnership for Critical Infrastructure Security, a Washington-based industry alliance, and director of critical-infrastructure protection at Cisco Systems Inc., said he has met several times with the new management team at the Information Analysis and Infrastructure Protection Directorate. Watson said he's "very encouraged" by the priority the DHS is placing on working with the private sector on cybersecurity issues. However, he acknowledged, "almost all the DHS principals are new, and that newness brings with it an education and relationship-building process."

One area where immediate action is needed is in infrastructure interdependency research. When asked by Congress during a hearing on Sept. 4 if there was one weak link in the security of the power grid, for example, Watson said the interdependent nature of all critical infrastructures makes it difficult to label any one sector of the economy as a weak link. "The first thing the government can do is provide guidance on priorities," he said.

And though several efforts are under way to create infrastructure models to study public/private interdependencies, "a comprehensive infrastructure modeling project will require additional government funding," said Watson. "Without higher funding levels, this may take a decade to accomplish and only marginally benefit the [private] sector."

What the Private Sector Wants the DHS to Do

SOURCE: PARTNERSHIP FOR CRITICAL INFRASTRUCTURE SECURITY

1 **Rapidly organize private critical-infrastructure sectors** named in the national strategy and clarify sector coordinator roles.

2 **Improve coordination among all national labs and federal departments** to apply computer models and simulations to critical-infrastructure areas. Ensure that the private sector is involved in setting modeling objectives, peer review of model creation, data mining and obtaining results.

3 **Sponsor comprehensive regional and national exercises** that cover the physical and cyber aspects of attacks on critical infrastructures. Ensure that sector coordinators are involved in exercise design and scenario creation and are the primary recipients of lessons learned.

Private-Sector IT Wary of Government Intervention

BY DAN VERTON

The Blackout of 2003, which remains under investigation this week, not only highlighted the vulnerable nature of the nation's critical infrastructure systems, but also reinvigorated the debate over government regulation of security in the private sector.

"A common explanation for the problems facing the electricity system is that private firms have had inadequate incentives to invest in distribution lines," said Peter Orzag, a senior fellow at The Brookings Institution in Washington. "We cannot simply let markets work; we must make markets work. We can't just leave it up to the market to protect us from terrorist attacks. Government intervention in some form will be necessary."

Orzag made those comments during a Sept. 4 congressional hearing into the cybersecurity aspects of the blackout.

According to Orzag, a workable model would include a mix of government regulation, market incentives and a mandated requirement to purchase terrorism insurance that bases premiums on how well companies meet certain security standards.

However, some private-sector CIOs don't see the need for greater government intervention. They argue that the security reality facing companies today is enough to force even the most reluctant firms to do what is necessary to secure their enterprises, including taking proactive steps to work with the government.

> **"The instinct for self-preservation never needed to be legislated."**
>
> BRUCE BLITCH, CIO, TESSENDERLO KERLEY INC.

"The ultimate responsibility has always fallen to the individual company and industry to do its best to protect itself," said Bruce Blitch, CIO at Tessenderlo Kerley Inc., a chemical manufacturing firm in Phoenix. "The instinct for self-preservation never needed to be legislated."

From Blitch's perspective, the security effort has been characterized by close cooperation with the Department of Homeland Security and other government agencies. "Had those agencies dictated requirements to industry without the benefit of that collaboration and cooperation, it is extremely unlikely that the reaction would have been anywhere near as good as it has been," he said.

Joseph Puglisi, CIO at Emcor Group Inc., a mechanical and electrical construction firm in Norwalk, Conn., agreed. "The DHS has been some help in alerting us to new threats . . . since [Sept. 11]," he said. "But the onus remains with us to both educate and enforce good practice."

The most important initiative for the government to undertake now would be to force the Securities and Exchange Commission to require publicly traded companies to report on information security readiness, said John Pescatore, an analyst at Gartner Inc. "But we haven't seen any movement on this at all."

IT RESPONDS
For comprehensive coverage of post-9/11 security-related issues, visit our Web site:
QuickLink a1030
www.computerworld.com

Congress Could See Cybersecurity Legislation

One proposal would require companies to document efforts to secure systems

BY GRANT GROSS
WASHINGTON

As Congress reconvened last week after a month-long break, some members were considering introducing legislation that would impose cybersecurity requirements on the private sector.

One proposal would require publicly held companies to document their cybersecurity efforts by filling out a checklist in their filings with the U.S. Securities and Exchange Commission.

Rep. Adam Putnam (R-Fla.), chairman of the House Government Reform Committee's Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census, might introduce such a bill late this year, according to Bob Dix, the subcommittee's staff director.

Although antispam legislation will continue to be the major technology focus in Congress this fall, Putnam's subcommittee is looking at the "pluses and minuses" of a cybersecurity reporting requirement, similar to SEC accounting reporting requirements mandated in the Sarbanes-Oxley Act, Dix said.

Up the Chain

Such a law would raise awareness about cybersecurity issues beyond the CIO level to CEOs but likely avoid specific cybersecurity requirements that may not apply to all businesses, said Daniel Burton, vice president of government affairs at security products vendor Entrust Inc. in Addison, Texas.

"It does not mandate you must do *x*, which we all realize is a false start," Burton said of an SEC cybersecurity reporting requirement. "Different companies have different security needs and different risks. So it's impossible to set up a mandate for everyone."

Stockholders and boards of directors could then judge for themselves whether a company is adequately dealing with cybersecurity, Burton said. "Everyone from the board level on down is really going to be focused on what [the cybersecurity reports] are saying," he added.

The bill Putnam is considering wouldn't require companies to lay out specifics about their cybersecurity efforts, Dix said. Instead, it could take the form of a checklist, asking such questions as, "Do you have an up-to-date IT assets list?"

The bill would be intended to raise cybersecurity awareness among top-level executives at companies, Dix added.

If such a bill is introduced, the subcommittee would expect some opposition, Dix said. "There will be some who say anything the government proposes is a burden," he said.

But Congress may feel the need to act on cybersecurity legislation if more viruses or worms are unleashed onto the Internet, said Robert Housman, a lawyer in the homeland security practice at Bracewell & Patterson LLP, a law firm in Washington. Indeed, lawmakers may have to do something in response to the Sobig and Blaster worms, which infected computers worldwide and caused millions of dollars in damage, he said.

Housman said he expects to see some sort of cybersecurity legislation getting attention in Congress this year. A reporting requirement, like the one Putnam's subcommittee is considering, would hold companies accountable for their cybersecurity efforts, he added.

But, Housman said, "if you run a major business . . . you're getting attempts to break into your system on a fairly regular basis. When you start having to report those numbers . . . that could make some of your shareholders a little queasy."

> **"Everyone from the board level on down is really going to be focused on what [the cybersecurity reports] are saying."**
>
> **DANIEL BURTON,** VICE PRESIDENT OF GOVERNMENT AFFAIRS, ENTRUST

Gross writes for the IDG News Service.

Continued from page 1

Compliance

The Patriot Act, passed in the wake of the Sept. 11, 2001, terrorist attacks, requires financial services companies to verify customer identities, submit suspicious-activity reports to the U.S. Department of the Treasury's Financial Crimes Enforcement Network and check customers against crime databases established by law enforcement agencies.

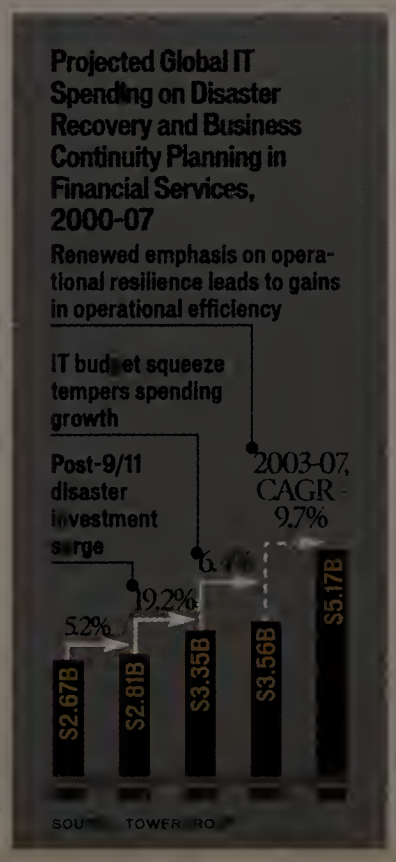
"You get e-mails from FinCEN asking if this person is on your list of customers. Keeping up with all the FinCEN requests is a lot of work," said Jethmal, vice president of compliance at Abel/Noser Corp.

Avivah Litan, an analyst at Gartner Inc., said CIOs are "much more risk-management-focused since 9/11."

Under scrutiny by regulators, financial services firms are installing applications that perform risk-scoring and use complex algorithms to identify unusual customer trends within transaction activity.

Although the Patriot Act's Oct. 1 deadline applies to confirming the identity of only new customers, Scott Barton, compliance officer at Columbus, Ohio-based Huntington Bancshares Inc., said regulators gave the financial companies just enough "rope to hang ourselves." Barton pointed out that the act requires banks to have a reasonable basis for knowing the identity of existing customers, but "if we're going to be scrutinized after the fact, how do we prove that?"

TowerGroup in Needham, Mass., estimates that by 2007, the global financial services industry will have spent $523 billion on operational resiliency — technology upgrades for disaster recovery, business continuity and security. U.S. retail banks alone will spend $1.1 billion, or 4.4% of their IT budgets, in response to 9/11 between 2003 and 2007, TowerGroup predicts. Artificial intelligence systems for tracking customer activity will carry the highest price tags.



"What these systems do is examine transactions in context rather than looking at them individually. If there's any deviation from the norm, it flags it," said TowerGroup analyst Virginia Garcia.

Business Opportunities

Apart from putting pressure on compliance officers like Jethmal and Barton, who called the Patriot Act the "No. 1 issue right now," the terrorist attacks of Sept. 11 have spawned a cottage industry around digital records retention, security and protections against money-laundering.

For example, since the attacks, New York-based J.P. Morgan Chase & Co. has taken an internal digital data-retention service and made it into a business, said Bill Telkowski, chief technology officer at J.P. Morgan's I-Solutions group. The bank sells space on a pair of geographically dispersed 100TB redundant storage-area networks to 75 customers, who can retrieve their information over a virtual private network.

"People learned paper isn't a safe method of information management," Telkowski said. "We have people looking to convert warehouses of paper to digital storage so they'll never lose their records."

Mike Curran, CIO at the Boston Stock Exchange, said that while he doesn't have a bigger overall budget, he has earmarked more money for disaster recovery and business continuity. "The biggest thing we worked on after 9/11 was getting the networks back up. Now, if you break it in one place, you just go the other direction to get there," he said.

The Boston Stock Exchange also built its own redundant Sonet-based network to replace a point-to-point network that ties into the New York Stock Exchange.

The Sept. 11 attacks also prompted the NYSE to build a Sonet-based network after trading was halted as a result of the destruction of a central convergence of service provider circuits below the World Trade Center.

"Security and disaster recovery have became a very high priority. CIOs have become very nervous about being exposed by the next terrorist attack," said Gartner's Litan. "They don't want to be caught with their pants down."

PRIVACY PITFALL

U.S. airline security laws could cause a rift with Europe over privacy:

QuickLink 41098
www.computerworld.com

AT DEADLINE

Judge Set to Begin Hearing on MCI . . .

A U.S. Bankruptcy Court judge in New York today is scheduled to begin a hearing to determine whether WorldCom Inc., which now does business under its MCI brand name, should be cleared to emerge from Chapter 11 bankruptcy protection. The hearing is due to last two weeks, but might require an additional week, MCI said. The judge could issue a ruling by early October.

. . . As Company Expands Board

In other MCI news, the company said it plans to add five board members after it emerges from Chapter 11 protection. The appointments will increase the number of directors on the board to nine. Meanwhile, AT&T Corp. filed a civil racketeering lawsuit against MCI in connection with an alleged scheme to illegally route phone calls. MCI has denied the allegations.

White House CTO Takes Vendor Job

Norman Lorentz resigned as chief technology officer at the Office of Management and Budget and took a job as senior vice president at DigitalNet Government Solutions LLC, a government IT contractor in Herndon, Va. His departure came just two days after President Bush appointed a new e-government chief, a position that Lorentz had been filling on a temporary basis. (See related story, page 14.)

Short Takes

JOHN HANCOCK FINANCIAL SERVICES INC. announced that it awarded IBM a six-year, $254 million contract to install and manage an on-demand computing infrastructure for the Boston-based company. . . . MICROSOFT CORP. warned of a "critical" security hole in its Visual Basic for Applications development tool.

MARK HALL ▪ ON THE MARK

Real Networks Signs onto Sun's . . .

. . . Project Madhatter, boosting the prospects that real people with real jobs will want the **low-cost, Linux-based desktop** when the Unix systems giant unveils it Sept. 18. Later this week, the two companies will announce that RealPlayer 8 will be bundled with the Intel-based PC, adding a streaming media client to a machine that will also be loaded with open-source goodies like StarOffice and the Mozilla browser. Although the new boxes lack all of the capabilities of a fully configured Windows client, Sun executives argue that IT managers will like them because they can be deployed in areas such as call centers, where high-performance machines are a blessing but end users don't need everything Microsoft puts into its desktop software — especially the price tag. Sun is betting that **cost-obsessed managers who hate paying for software** they never use will love a PC with only free bits. ▪ The appearance and support of Linux desktops from major IT vendors is an opportunistic response to users' frustration with software costs. In part, that's because the **cost of software as a proportion of the cost of a PC** has been rapidly rising. Dean McCarron, an analyst at Mercury Research in Scottsdale, Ariz., says that 10 years ago, the average price of PCs sold to corporations was approximately $1,500 to $1,750. Today, he estimates, the average price of the machines you buy is $800. During that same time, he points out, "software prices have pretty much remained the same." Since most of you get machines loaded with software by an OEM or value-added reseller, figuring how much you can save by eliminating its cost is an inexact science at best, McCarron admits. But he figures that for most businesses, it would be about $90 per computer. So, if you need five machines, maybe a Madhatter from Sun isn't such a deal. But if you need 5,000, well, **you're almost talking real money.** ▪ Nearly every corporate IT environment can afford a LAMP. **Not the light-emitting thingy on your desk,** but the Linux, Apache, MySQL and PHP servers running your Web site. Some might argue that Perl is the "P," but for the majority of you, it's PHP, and you're probably already on Zend Technologies Ltd.'s Web site downloading today's release of Zend Studio 3.0 from the Ramat Gan, Israel-based company. The new IDE offers developers workgroup capabilities, such as file and project inspectors, a new code profiler and code analyzer, as well as a shortcuts feature that simplifies complex coding tasks with a few quick keystrokes. It'll set you back $195; pay $249 and Zend will throw in a year of updates. ▪ As with teenagers, the **first rule of databases is, they don't get smaller.** And growing them is expensive because they need more disks, take longer to back up and require more care and feeding. Jim Lee, vice president of product development at Princeton Softech Inc. in Princeton, N.J., says the problem is tricky because you can't just archive and remove old data willy-nilly because applications often share database tables. And one app's use of data may be more dependent on one data set than another app. So what happens, he says, is that unused data is never removed. His company's impossibly long-named Archive for Servers Oracle Application Edition might help when it ships tomorrow. It lets you **archive seldom-accessed data inside applications in real time,** so only active data gets stored in an application's database. Think $50,000 for the Windows version. Double that for Unix and Linux. **Ouch!** ◗

Business Booster

Teamplate Inc. in Calgary, Alberta, this week releases its business process automation tool, Teamplate 4.0. The new version now works with Microsoft Outlook and Exchange, making it possible to define and measure business activities based on these and other Microsoft applications. Pricing start at $25,000.

SCO May Send Unix License Invoices to Linux Users

BY TODD R. WEISS

The SCO Group Inc. said last week that it's considering mailing invoices to companies that it identifies as Linux users, asking them to pay a licensing fee of $699 per CPU for the right to run the open-source operating system.

The invoice option is the latest twist in SCO's campaign to compel corporate Linux users to license its UnixWare technology or risk being sued for allegedly violating the Lindon, Utah-based company's intellectual property rights.

No invoices have been prepared for mailing, said SCO spokesman Blake Stowell. But the strategem is seen by SCO as a potential way to get users to respect its claim that Linux is an unauthorized derivative of its Unix code.

Invoices could be mailed within the next month or two to about 1,000 users that are now being identified by SCO employees via Web site searches and scans of news stories, Stowell said.

"We're not trying to make this into a witch hunt," he said. Nonetheless, he warned that even if the software vendor eventually loses a breach-of-contract lawsuit it filed against IBM in March, it could still go after Linux users.

"There will most likely be some kind of lawsuit," Stowell said. "I don't think that SCO is completely dependent on the SCO/IBM case to prove that Unix [code] is in Linux."

SCO alleged in the March lawsuit that IBM illegally incorporated some of SCO's Unix System V code into Linux. Last month, IBM filed a patent infringement countersuit against SCO and challenged its legal standing to sue other companies over their use of Linux.

Dan Kusnetzky, an analyst at IDC in Framingham, Mass., noted that SCO's assertions haven't been proved in court. It isn't clear that SCO owns any of the code "that's inside a typical Linux box," Kusnetzky said. "There's so much in question that it wouldn't be reasonable or prudent for a company to give money to The SCO Group until this is settled."

At the SCO Forum conference in Las Vegas last month, company President and CEO Darl McBride was asked if he would consider creating an escrow account to reassure potential licensees that the Linux-related fees would be refunded if a court ruled that SCO wasn't entitled to them. "We haven't built that in," he said. ◗

READ MORE ONLINE

For full coverage of the SCO/Linux controversy, go to our Web site:

QuickLink a3260
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Pentagon Awards Contracts to Rebuild Iraq's Communications

Satellite systems, mobile technology will connect administrative offices

BY BOB BREWIN

THE U.S. DEPARTMENT of Defense last week confirmed that it and the U.S.-run provisional government in Iraq have awarded a series of contracts worth a total of more than $100 million in an effort to jump-start the rebuilding of the war-torn country's communications infrastructure.

The contracts, some of which have yet to be publicly announced, also include ones issued by San Francisco-based Bechtel Corp., the lead contractor on the overall reconstruction program in Iraq.

For example, Bechtel late last month announced a $25 million deal under which it plans to buy 13 central-office switches and fiber-optic networking equipment from Lucent Technologies Inc. in Murray Hill, N.J., for use in upgrading the Iraqi phone system.

'Essential' Capabilities

At a conference on Iraq Aug. 29 in Arlington, Va., Linton Wells, principal assistant secretary of defense for networks and information integration, described the development of improved telecommunications capabilities as being "absolutely essential" to the efforts of the Coalition Provisional Authority to ensure security and restore essential services in Iraq.

Wells outlined in his speech a variety of projects designed to ensure that CPA offices throughout Iraq can communicate with one another.

For example, a mobile communications system made by Lexington, Mass.-based Raytheon Co. will be used to provide data and voice networking services from the CPA's headquarters in Baghdad to three regional offices.

Patricia Perlini, a Raytheon spokeswoman, said the system will be based on the company's First Responder technology, which was initially developed for homeland security uses in the U.S.

Perlini said she didn't have permission from the Pentagon to discuss the system in more detail or to disclose the contract's value.

But according to information on Raytheon's Web site, First Responder is a vehicle-mounted integrated communications system that provides cellular, satellite and Wi-Fi wireless LAN links.

The Defense Department and the CPA have also tapped Herndon, Va.-based Northrop Grumman Corp. to provide "Internet in a box" systems that can deliver satellite-based Internet connectivity to the authority's regional headquarters throughout Iraq. Wells said the CPA has already installed seven of the 25 planned systems.

RAYTHEON'S FIRST RESPONDER system supports multiple communications technologies and is mounted on vehicles such as this one.

Northrop Grumman spokeswoman Janis Lamar said she couldn't provide details about the technology or the contract because she hadn't received clearance to do so from the U.S. Central Command.

Warren Suss, an analyst at Suss Consulting Inc. in Jenkintown, Pa., who follows federal contracts, described the Raytheon and Northrop Grumman systems as "quasi-military" in nature and said they should be well suited to the challenge of trying to provide communications capabilities in a country like Iraq.

In addition to the agreement it signed with Lucent, Bechtel has awarded a contract to Fairfax, Va.-based Verestar Inc. for development of an emergency satellite communications system and a separate contract to Hauppauge, N.Y.-based Globecomm Systems Inc. for an international satellite gateway. Wells estimated the value of those two deals at $45 million.

Meanwhile, the Defense Information Systems Agency, the Pentagon's in-house systems integrator, has set up a technical support management office in Iraq that will provide various IT services to the CPA.

As part of that effort, the agency awarded a contract worth $36.4 million to Science Applications International Corp. in San Diego to handle command-and-control and communications services, plus two smaller telecommunications-related contracts. ◗

Bank Takes Hybrid Route On New Telephony System

Alcatel switches support mixed IP/circuit approach

BY MATT HAMBLEN

Brown Brothers Harriman & Co. last week said it has completed a three-year project to install IP telephony systems at several of its U.S. offices. But the New York-based banking and investment management firm isn't moving away from circuit-switched call-routing technology altogether.

BBH is using four of Alcatel SA's OmniPCX Enterprise IP-PBX voice switches at offices in Boston, New York and Jersey City, N.J. Paris-based Alcatel wasn't well known in the U.S. when it was picked for the project in December 1999. But BBH officials preferred the OmniPCX technology because it was less expensive than rival products and could handle voice communications in either a circuit-switched or IP-based mode, said Paul Diamond, senior vice president of enterprise communications at BBH.

Telephone calls that can't be transmitted via BBH's IP network because of heavy data traffic are converted to circuit-switched routing by the Alcatel devices. "It's a stable and sophisticated switch, and since we're a financial institution, we need dial tone consistently," Diamond said.

Common Path

Brian Riggs, an analyst at Current Analysis Inc. in Sterling, Va., said many other companies are following the same partial migration route that BBH took instead of jumping completely into IP-only voice networking [QuickLink 38056].

"The real world is saying we won't be pure IP, and many companies find it more comfortable to be circuit-switched as well as IP-enabled," added Elizabeth Herrell, an analyst at Forrester Research Inc. in Cambridge, Mass.

The telephony project cost BBH $2.5 million and affects the voice systems used by nearly 3,000 brokers and other financial services personnel. BBH did a phased rollout and has already saved $200,000 in annual costs by eliminating voice-only network pipes and using its IP network to run core voice applications, Diamond said.

TECHNOLOGY DETAILS

Alcatel's OmniPCX Enterprise IP-PBX Switch

- Supports up to 50,000 end users
- Is available in rack-mounted or full-size cabinet configurations
- Works with Unix and Linux systems
- Includes a SQL database
- Starting prices range from $332 to $501 per user.

Additional benefits include the ability to convert BBH's Alcatel 4035 digital phones to IP phones by adding an inexpensive snap-on hub to the bottom of each device. That alone saved Diamond about $300 per phone compared with what it would have cost him to buy new ones from another vendor.

Diamond said BBH is also using the hybrid network to run a new IP-based voice-mail application and several call center applications and is integrating it with a voice recording system developed by the New York Stock Exchange to meet a federal requirement that verbal stock trades be recorded.

But Diamond is reluctant to roll out IP telephony capabilities to BBH offices worldwide because of a lack of open standards and the difficulty of getting products that the company has bought from different vendors to interoperate.

"I await with open arms the integration resolution," Diamond said. ◗

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BRIEFS

Gateway Cutting Manufacturing Jobs

Gateway Inc. will close its manufacturing plant in Hampton, Va., and cut jobs at its two South Dakota plants, the Poway, Calif.-based company said last week. Those manufacturing jobs will be handled by outside companies and other Gateway locations, officials said, noting that about 450 employees in Hampton will lose their jobs.

EDS Lands Deal With State Dept.

Electronic Data Systems Corp. in Plano, Texas, last week said it signed a deal to take operational responsibility for the domestic telecommunications system of the U.S. Department of State. The value of the award wasn't released. WorldCom Inc. said the EDS deal doesn't affect the 10-year, $360 million contract it signed with the State Department in December 2002.

New Siebel Apps Map Performance

San Mateo, Calif.-based Siebel Systems Inc. this week is expected to announce call center and sales personnel performance management software. The applications will enable companies to measure customer-facing employee performance and communicate corporate goals, among other functions. The Siebel Sales and Call Center Performance Solutions products are available now. Pricing wasn't disclosed.

Short Takes

VERIZON WIRELESS signed a $1 billion deal with NORTEL NETWORKS LTD. for wireless infrastructure technology. . . . STRATUS TECHNOLOGIES INC. in Maynard, Mass., said Windows Server 2003 Enterprise Edition is available on its fault-tolerant servers, including the ftServer 5500 and 6600 systems being announced today.

PeopleSoft Moves to Mix Apps After Merger

Says it will maintain J.D. Edwards' products and blend software features

BY MARC L. SONGINI

PEOPLESOFT INC. last week disclosed the initial details of its plan for integrating its products and operations with those of onetime rival J.D. Edwards & Co., saying that links between the two vendors' business applications will be made available starting in the fourth quarter.

Executives from Pleasanton, Calif.-based PeopleSoft said at a meeting with financial analysts in New York that the company plans to maintain three separate lines of software: PeopleSoft World, which will consist of J.D. Edwards' green-screen applications for IBM AS/400 systems; PeopleSoft EnterpriseOne, a midmarket offering built around the newer J.D. Edwards 5 software; and PeopleSoft Enterprise, a high-end suite that gives a new name to PeopleSoft 8.

PeopleSoft, which is still trying to fight off a hostile takeover bid by Oracle Corp., completed its acquisition of Denver-based J.D. Edwards late last month. The company plans to continue developing all of the products from both companies, said PeopleSoft CEO Craig Conway. "This was never intended as a consolidation play," he added.

A Blended Approach

But Ram Gupta, PeopleSoft's executive vice president of products and technology, said there will be some blending of applications. For instance, J.D. Edwards' CRM applications will be able to exploit PeopleSoft's call center software, Gupta said. In addition, hooks to several of J.D. Edwards' application modules are being built into PeopleSoft Enterprise.

Gupta said the application integration is being done through PeopleSoft's App-Connect middleware and integration broker technology, along with data-sharing and Web portal publishing capabilities that were developed by J.D. Edwards. More detailed product information is due to be released next week at PeopleSoft's Connect 2003 user conference in Anaheim, Calif.

Mark Federle, CIO at The Weitz Co., a Des Moines, Iowa-based construction contractor, said he's looking forward to hearing about PeopleSoft's plans at the conference. But Federle added that he was glad to hear of PeopleSoft's commitment to maintaining J.D. Edwards' software and to upgrading the applications through the integration plan. Weitz uses J.D. Edwards' OneWorld XE suite, a predecessor to J.D. Edwards 5.

Although PeopleSoft is showing good initial progress in the application integration effort, "we have to wait and see the practical actions," said Irving Tyler, CIO at Quaker Chemical Corp. in Conshohocken, Pa. Quaker also uses OneWorld XE.

Kevin Parker, PeopleSoft's chief financial officer, said the combined company plans to reduce its 13,000-employee workforce by up to 1,000 people, with most of the layoffs affecting marketing and middle management jobs. There won't be any cutbacks in research and development or among quota-carrying sales and consulting personnel, he said. ◗

Development Plans

PeopleSoft said the following J.D. Edwards functionality will be added to its applications, now called **PeopleSoft Enterprise:**

Q4 2003

- Real estate management
- Advanced planning and production scheduling
- Manufacturing and distribution automation

Q1 2004

- Asset management

ORACLE'S PROMISE

Oracle officials reiterated a pledge to maintain PeopleSoft's applications if the company's buyout bid succeeds:

QuickLink 41063
www.computerworld.com

SAP Pushes to Increase Use of Its Middleware

Online community, tools upgrade aim to boost NetWeaver

BY MARC L. SONGINI

APPLICATION INTEGRATION

Looking to lure more software vendors and corporate developers to use its NetWeaver application integration technology, SAP AG this week plans to announce upgraded programming tools and the creation of a virtual community that will let users exchange advice and other information.

The business applications vendor is due to make the announcements at its TechEd '03 developers conference in Las Vegas. SAP officials were sketchy on the details last week but said the company will push hard to show corporate users and business partners how they can exploit NetWeaver to link SAP applications with third-party products and homegrown software.

NetWeaver was introduced in January as the latest version of integration software that SAP originally rolled out in 2001 under the name mySAP Technology [QuickLink 35721]. The NetWeaver tools can support Java and Microsoft .Net applications, as well as code written in SAP's proprietary ABAP programming language.

Eric Bloom, vice president of IT at Endo Pharmaceuticals Inc. in Chadds Ford, Pa., said NetWeaver isn't of much interest to him at this point because of the relatively small size of his company. He added that on the surface, NetWeaver appears to be just a renamed version of SAP's older integration tool set.

SAP plans to release the enhanced NetWeaver programming tools and start up the online community for developers within the next 12 months, said William Wohl, a spokesman for the vendor's SAP America Inc. subsidiary in Newtown Square, Pa. He added that the online community will include educational Web sites, chat rooms and discussion forums where developers can get tips on how to maintain or expand their SAP installations.

The addition of the online community is a necessary step for SAP, even if the company doesn't reap an immediate return on its investment, said David Dobrin, an analyst at B2B Analysts Inc. in Cambridge, Mass. He pointed out that Java has succeeded partly because it has such communities, where developers can trade notes and share code.

But "it will take real grit for [SAP] to decide to put in the resources that are required to make this successful," Dobrin said, referring to both the programming tools upgrade and the online community plan. ◗

Online Tech Job Postings Increase, but IT Execs Don't Expect a Jump in Hiring

Staffing levels likely to remain at status quo in Q4

BY THOMAS HOFFMAN

There are some signs that the IT labor market may finally be picking up some steam. But corporate technology executives and industry analysts last week said most companies are likely to maintain IT staffing at or near current levels for the foreseeable future.

On the plus side, since January New York-based Dice Inc. has seen a 35% increase in the number of jobs listed through its online recruiting service for IT professionals. The total number of available positions has risen from roughly 20,000 to 27,000, said Scot Melland, Dice's president and CEO. He noted that the increase may be partly tied to companies using funds left in their annual IT budgets to buy new servers and upgrade their IT infrastructures.

Demand for contract and temporary workers has also been on the rise, Melland said. "That's usually a precursor to full-time hiring — at least it has been for the last two or three recessions," he noted.

Maria Schafer, an analyst at Meta Group Inc. in Stamford, Conn., said she is starting to see "a little bit of movement in hiring." She pointed to indicators — mostly increasing headhunter activity — that IT job demand may pick up in the first quarter of 2004. But, she added, "we're still pretty much in a wait-and-see mode."

BIELEC says Drexel will hire one or two security specialists.

That maps with survey results released late last month by Robert Half Technology in Menlo Park, Calif. Eighty-three percent of the 1,400 CIOs who responded said they don't plan to change their IT staffing levels during this year's fourth quarter [QuickLink 40966].

IT managers at companies such as San Francisco-based retailer DFS Group Ltd. and Muscatine, Iowa-based HON Industries Inc. last week said they expect their technology staffs to remain constant for now.

"We have not laid off through this downturn, and we do not plan to start now," said Malcolm Fields, CIO at HON Industries, a maker of office furniture and fireplaces. But Fields also isn't looking to augment his IT staff with new hires. "It is status quo for us," he said.

Others plan to add a small number of new workers. IT staffing at Drexel University in Philadelphia isn't expected to grow significantly during the fourth quarter, said John Bielec, vice president of information resources and technology. But Bielec does intend to hire one or two security specialists to manage Drexel's desktop firewall technology and install security updates on its systems.

Robb Good, vice president and director of information systems at Sundt Construction Inc. in Phoenix, said he plans to hire an entry-level Java programmer sometime in the next six months. Good created the opening for a programmer by eliminating a training specialist's position as part of a slight restructuring of Sundt's IT department earlier in the summer.

"Our strategy has been to develop more internal Web services applications and move away from specialized vertical market applications," said Good. Sundt's business hasn't been significantly affected by the weak economy, and Good said the company has had low turnover and no major IT staff reductions for the past seven years. He added that he doesn't expect any significant workforce changes, up or down, "for at least the next three years."

Melland said the jobs in greatest demand through Dice's Web site are programming positions for languages such as C++ and Java, especially at federal agencies and with government contractors that are seeking workers with high-level security clearances. ◗

Correction

A story in the Sept. 1 News section ("Dell to Release Network Management Software") incorrectly stated that Dell Inc. has sold about 50,000 of its PowerConnect switches since the devices were introduced two years ago. Dell actually has about 50,000 PowerConnect customers. The company declined to disclose the total number of switches that those users have bought.

HP Broadens Its Support For Grid Computing Apps

Will 'grid-enable everything,' offer consulting help

BY MATT HAMBLEN

Hewlett-Packard Co. last week took two more steps to extend its Adaptive Enterprise computing strategy, announcing plans to buy a vendor of Web services management tools and to support grid computing capabilities across all of its products for corporate users.

Adaptive Enterprise is a set of technology offerings designed to help IT managers build systems that can easily be modified as business needs change — an autonomic computing capability that is also being developed by rival vendors like IBM and Computer Associates International Inc.

To further its initiative, HP will "grid-enable everything we sell," from handheld computers to the largest servers and storage systems, said Nick van der Zweep, the company's director of utility computing.

Grid computing lets users run applications across large numbers of relatively inexpensive systems. Van der Zweep said HP is integrating support for grid computing standards and setting up a team within its consulting organization to manage and support grid implementations (see chart). No timeline was announced, although HP noted that it already offers several grid-related technologies.

HP also said it has signed an agreement to acquire San Francisco-based Talking Blocks Inc., a small company that sells software for managing Web services and integrating disparate systems both internally and between business partners. The financial terms of the deal won't be disclosed until the acquisition closes later this month, said Nora Denzel, senior vice president of HP's software business unit.

The two announcements were welcomed by some users of HP's OpenView enterprise management software. But several said they're uncertain about how the new developments will affect them.

HP's Grid Computing Plan

- **Support for standards,** such as the Globus Toolkit and the Open Grid Services Architecture, is being built into all of HP's enterprise computing products.
- The company is **offering new consulting, deployment and support services** for grid computing installations.
- HP is **adding capabilities for controlling the IT resources used** in grid and Web services applications to its OpenView management software.

Jason Kennedy, a systems management analyst at Best Buy Canada Ltd. in Burnaby, British Columbia, said the retailer is installing HP OpenView products to manage more than 100 Unix and Windows servers at its data center. Kennedy added that he's interested in grid computing's potential, although he's not likely to adopt it any time soon.

"Sharing resources is the point of the adaptive management approach, and that's where I'm moving my company," Kennedy said. And being able to make systems responsive to changing business needs would be a "huge bonus" for Best Buy Canada, he added. For now, though, grid computing is just "pie in the sky and something nice to read about."

Stephen Elliot, an analyst at IDC in Framingham, Mass., said it's a positive development that HP, Oracle Corp. and other vendors are stepping forward and announcing grid computing strategies. However, Elliot added that most IT managers have more practical concerns to worry about for at least the next year.

"Grid is in the early stages of adoption," said Audrey Rasmussen, an analyst at Enterprise Management Associates Inc. in Boulder, Colo. "HP's grid announcement shows they are looking to the future, although the concept hasn't taken off in the market." ◗

DATABASE DETAILS

Oracle discloses more of the features that will be part of a grid-enabled database upgrade being announced today.

QuickLink 41075
www.computerworld.com

BRIEFS

Judge Dismisses Software Patent Suit

A federal judge in California dismissed a lawsuit in which Business Objects SA claimed that data analysis software vendor MicroStrategy Inc. in McLean, Va., had infringed on a U.S. patent involving relational database access technology. The judge ruled that the claims were legally and factually unsupported. France-based Business Objects said it's considering an appeal.

Outsourcing Suffers From Poor Relations

Most companies are unprepared to properly manage the outsourcing vendors they hire and closely monitor their work, according to Gartner Inc. The research firm forecasts that by 2005, 70% of companies will use more than three IT service providers for key projects but that less than 10% of those will be prepared to effectively manage the outsourcers.

Virginia Tech Picks Apple for Cluster

Virginia Polytechnic Institute and State University plans to build an InfiniBand cluster using Apple Computer Inc.'s new dual-processor Power Macintosh computer with the 64-bit G5 processor. The cluster of 1,100 nodes is expected to rank among the most powerful in the world, Virginia Tech said. The Blacksburg-based university has been working with Apple for several months to adapt the new Power Macintosh for its cluster.

Short Takes

CARGILL INC. selected ALTIRIS INC.'s IT life-cycle management software to manage its IT assets, including 27,000 PCs and 500 servers. . . . HITACHI LTD. said it has developed a radio frequency identification chip that requires no external antenna and makes possible the embedding of tracking and identification chips in bank notes and other paper products.

Continued from page 1

Interland

problem on Aug. 28 when customers called to complain of service disruptions, according to Reich. What started as a small-scale problem quickly became a large-scale event, he said, declining to specify how many sites may have been affected. He said he believes that by Sept. 4, the problem was no longer affecting customers.

"I can definitely say it was an administrative error that allowed this to occur," Reich said, without elaborating. "From a customer perspective, we don't see this as being caused by any inherent problem" with the products or services Interland uses, he added.

"We had problems with the Web site," said Tony Johnson, webmaster at *Trinidadexpress.com*, an online newspaper hosted by Interland that covers Trinidad and Tobago and is based in Port of Spain. "We've had our servers at Interland needing rebooting manually" due to their inaccessibility through Microsoft Corp.'s Windows Terminal Server, Johnson said in an e-mail. Although Interland posted information about some sites experiencing problems, it hasn't explained what might have caused them, he added.

As many as 5,000 sites per day may have been infected before Interland had a chance to fix the problem, said Joe Stewart, a senior security researcher at Lurhq Corp., a managed security services provider in Chicago. Lurhq began tracking the problem Aug. 28 when it began noticing traffic on newslists about service disruptions for sites being hosted by Interland.

According to Stewart, the HTML code that was appended to the footers contained instructions that would cause an executable program to be downloaded from another location to vulnerable systems belonging to those who visited the infected sites. The code took advantage of a flaw, disclosed on Aug. 20, in several versions of Microsoft's Internet Explorer browser [QuickLink a3620].

How It Worked

- Malicious HTML code on Interland-hosted Web sites disrupted service.
- The code contained instructions for downloading an executable program onto vulnerable systems of users who visited infected sites.
- The malicious program then downloaded proxy servers onto infected systems.

Once installed on a victim's system, the program would then proceed to download a proxy server onto it, Stewart said. The proxy server allowed hackers to hide behind innocent third parties when engaging in illegal activities such as identity theft, he said.

The owner of the site from which the executable program was downloaded had a Ukrainian address and runs a site that trades stolen credit card information, Stewart said.

In addition, the Houston-based location from which the proxy server is downloaded has been associated with a Trojan horse program known as MigMaf, Stewart added. MigMaf enables infected systems to retrieve porn ads from adult sites.

"Hosting companies get defaced all the time. This time, it appears Interland got defaced with malicious code," Stewart said.

Reich said that the company had "heard anecdotes" about users being redirected to sites that downloaded malicious code, as described by Stewart. But no actual instances have been reported to the company, he said. ◗

C&W Offers New Hosting Service Despite Exit Plan

BY TODD R. WEISS

Three months after Cable & Wireless PLC disclosed plans to exit the U.S Web hosting market, its U.S. unit today is due to announce a "business-ready" hosting service to try to shore up its customer base for potential buyers.

The new enterprise hosting package includes collocation data center services as well as connectivity, security, and data backup and restoration capabilities, said Jason Weisberger, vice president of product management and partner development at C&W's U.S. division in San Francisco. It will also gather all of C&W's primary services into one bundle for the first time, he said.

This week's announcement is in sharp contrast to the U.S. pullout plan that C&W set in June, when the London-based company said it was losing $1 million per day here [QuickLink 38994]. C&W, which in November had narrowed its focus in the U.S. to large multinational companies, continues to seek a buyer for its remaining operations.

When asked how C&W officials expect corporate users to react to the new service in light of the sell-off plans, Weisberger said, "We'll see how people will respond to it. Right now, we're not concerned."

Adam Lavine, CEO of wireless messaging applications vendor FunMail Inc. in Pleasanton, Calif., has been a C&W customer since 2000 and said he has already signed on to buy the services bundle to get all the hosting capabilities he needs under one contract.

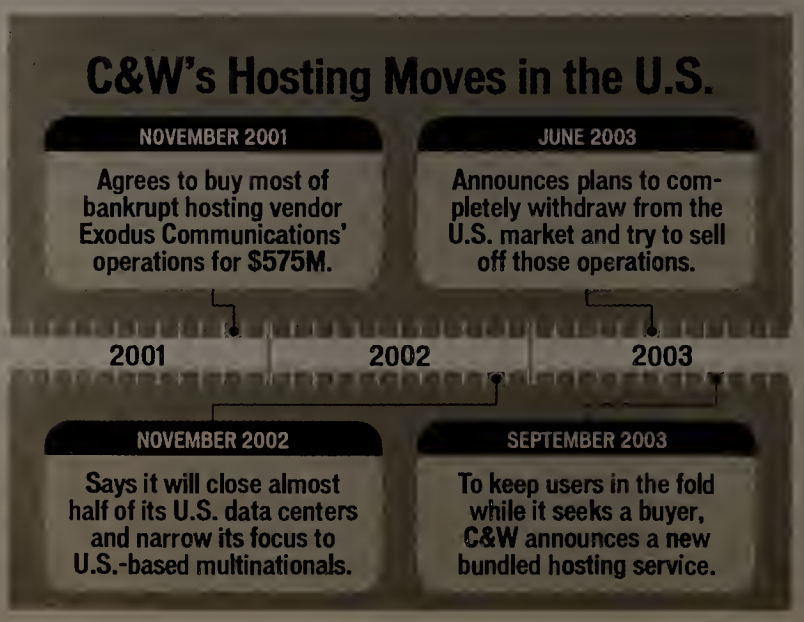
"We were willing to give them a try," Lavine said. Thus far, C&W's plans haven't negatively affected either the customer service or the network reliability it provides to FunMail. "I would have to think they're motivated to do a good job here," Lavine noted.

The new services bundle could help C&W retain customers while it tries to find a buyer for its U.S. operations, said Melanie Posey, an analyst at IDC in Framingham, Mass. "They kind of have to maintain the business they have in order to eventually sell it to somebody else," she said.

But Laurie McCabe, an analyst at Summit Strategies Inc. in Boston, said C&W is in danger of sending potential customers mixed messages. "It's not that hard to find a hosting provider with similar services, so why would you go with someone who's waffling?" she said. "You want to feel like the vendor is in it for the long haul."

Laurie Probst, vice president of marketing in the U.S. at C&W, confirmed that the new services are designed to beef up its customer base to entice buyers. "It's our job to retain the value of this company," she said. ◗

C&W's Hosting Moves in the U.S.



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The Business Intelligence Navigator, based on Atre BI Methodology, will help you chart your BI course. Because every BI opportunity is unique, the Navigator should be used only as a guide. The phases are iterative and can be implemented in any sequence. BI vendors' offerings are color-coded with their phases based on functionality.

PHASE 1: Justification: Creating BI Vision & Strategies and Analyzing ROI

Create a strategic vision for success, as well as strategies for implementing the BI vision, risk management and cost/benefit justification. When considering business benefits, disregard technology drivers.

DELIVERABLES:

- Vision and mission statement
- Clearly articulated objectives
- Mapping of project objectives to organizational goals
- Overall value proposition
- Documented balanced scorecards, KPIs (key performance indicators) and risk mitigation plan
- Next steps defining how the project will be planned, delivered and managed

PHASE 2: Planning, Designing and Building the BI Infrastructure

You'll make better decisions if your organization's knowledge workers can easily access data of all types. Create an infrastructure that allows access to legacy systems, factoring in security, disaster recovery and powerful search capabilities. Begin your collaboration activities through enterprise portals, as well as content and knowledge management initiatives.

DELIVERABLES:

- Design and implementation of infrastructure
- Creation and expansion of physical network
- Deployment of security requirements
- Rollout of enterprise portals, content management solutions and knowledge management systems

PHASE 3: Designing, Building and Managing Historical and Operational Information Stores

BI lets you make informed decisions by performing trend analysis, forecasting, data mining and statistical exploration of information stores. These information stores can help your organization perform tactical and strategic analysis for action-oriented decision making.

DELIVERABLES:

- Completion of logical and physical data model
- Deployment of physical BI target databases
- Creation of meta data repositories
- Implementation of data-cleansing and data-scrubbing specifications and processes
- Rollout of data extraction, transformation and loading (ETL) tools
- Implementation of enterprise data warehouse, operational data stores, departmental data marts and operational information stores
- Integration of information from external data feeds
- Creation of basic cubes

PHASE 4: Information Retrieval and Reporting by Leveraging Off-the-Shelf Enterprise Software

A differentiator for any successful business is the ability to deliver information to decision makers in a timely and consistent manner. Don't deploy BI applications in one "mega swoop"; key information elements are usually unclear this early. Two-step deployment is preferable. In the first step, leverage existing applications and use off-the-shelf applications for quick deployment in key business areas.

DELIVERABLES:

- Analytic and statistical static reports for executives and line managers
- Report of obvious deficiencies and opportunities in the operational processes, customer demographics and market conditions

PHASE 5: Data Visualization, Prediction and Presentation by Leveraging Customized Solutions

By using off-the-shelf software, you enable knowledge workers to use data warehousing systems, queries, reports and information delivered by the BI applications. However, you'll likely need to customize BI applications by using visualization, prediction and presentation tools.

DELIVERABLES:

- Creation of multi-dimensional cubes driven by historical and operational information stores
- Dynamic querying and reporting systems
- BI dashboards for executives
- Mobile application deployment for process optimization and efficient data collection

PHASE 6: Managing and Enhancing BI Applications and Infrastructure

Because business-critical decisions depend on BI applications, you must manage your BI environment as you would an operational environment. Activities include managing systems, implementing help desk procedures and enhancing BI applications.

DELIVERABLES:

- Functional help-desk
- Customized training capabilities
- Functional meta data repositories and program libraries
- Automated ETL processes with automated alert mechanisms
- Operational backup and recovery procedures
- Scheduled evaluation of performance levels and metrics
- Documented processes for issue reporting, investigation and resolution

About Computerworld

Computerworld, the "Voice of IT Management," is the most trusted source for the critical information needs of IT management. Through its weekly print publication, Computerworld.com Website, focused conference series and custom research, Computerworld's integrated offerings form the U.S.-based hub of the world's largest (58-edition) global IT media network. Computerworld has won more than 100 print and online awards for editorial and design excellence in the past five years, including a Jesse H. Neal Award for "Best News Coverage," 22 ASBPE awards and BtoB Magazine's "Media Power 50" in 2003. In print since 1967, Computerworld currently has a guaranteed rate base of 180,000, a total print audience of 1,846,000 (according to IntelliQuest CIMS v.9.0), and an online audience of nearly 1 million unique monthly visitors (according to DoubleClick). Breaking news and resources for IT management are available at www.computerworld.com.

As the "Voice of IT Management," Computerworld is dedicated to producing events and custom publishing focused on Business Intelligence and Business Performance Management. Beginning this year, Computerworld has begun focused regional events on Business Intelligence and related topics to provide an executive forum for IT management to be educated and network with their peers on these topics.

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About Atre Group

Atre Group, Inc. is a consulting and training firm specializing in business intelligence, data warehousing, very large databases and knowledge management applications. The company provides a full range of consulting services to assist clients with activities from envisioning to rollout of business performance management and improvement initiatives. Committed to delivering innovation, Atre Group's team of experts delivers a highly effective combination of tactical guidance and technical "hands on" experience. Atre Group partners with its clients to ensure that the learned knowledge is sustainable inside the client organization, enabling self-sufficiency at project completion.

The company frequently publishes special reports and whitepapers on key development topics, marketing research and vendor strategies. Delivering both live and online content, Atre Group regularly keynotes at industry conferences and webinars, as well as contributes to webzines, columns and special publishing projects.

Shaku Atre, the founder of Atre Group and an internationally renowned expert, consultant and speaker, has written six books on database-related topics and speaks frequently at conferences around the world. She is widely quoted in the trade press and has served as a columnist for many leading technology publications. Her most recent book is "Business Intelligence Roadmap - The Complete Project Lifecycle for Decision Support Applications," by Larissa T. Moss and Shaku Atre (Addison-Wesley) published in February 2003.

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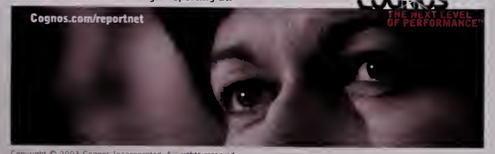

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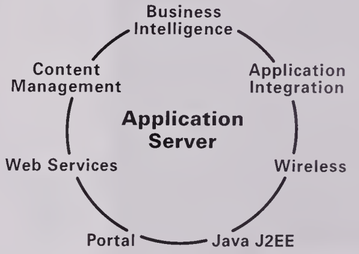

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PHASE 1

VENDOR	PRODUCT NAME
Accenture	Services
BearingPoint	Services
Cap Gemini Ernst & Young	Services
Cognos	Cognos® Metrics Manager
Deloitte Consulting	Services
Hyperion	Hyperion Planning
Hyperion	Hyperion Performance Scorecard
IBM Global Services	Services
PriceWaterhouseCoopers (IBM)	Services
SAS	SAS® Strategic Performance Management

PHASE 6

VENDOR	PRODUCT NAME
Accenture	Services
BearingPoint	Services
BMC Software	PATROL®
Cap Gemini Ernst & Young	Services
Deloitte Consulting	Services
EDS	Services
EMC	EMC ControlCenter Family
Hewlett Packard	hp OpenView
IBM	Tivoli
IBM Global Services	Services
Perot Systems	Services
PriceWaterhouseCoopers (IBM)	Services

PHASE 1

Justification: Creating BI Vision & Strategies and Analyzing ROI

Processes:
- Analyze current state of business and market
- Determine BI business drivers and sponsors
- Perform BI risk assessment and cost/benefit analysis
- Perform BI risk mitigation, cost reduction and benefit increase

Product and Service Categories with Functions:
- Market analysis: evaluation of customers, partners, suppliers and competitors
- Business analysis to articulate tangible benefits
- KPIs and balanced scorecards to determine ROI
- Business process flows, business requirements, budgetary scope and risk mitigation plans

PHASE 2

Planning, Designing and Building the BI Infrastructure

Processes:
- Evaluate requirements for the BI infrastructure
- Design BI infrastructure including security and network requirements
- Identify existing and select new BI infrastructure components
- Enhance, build and manage BI infrastructure components, considering capacity and performance requirements

Product and Service Categories with Functions:
- Compatibility with legacy systems
- Security and network requirements and evaluation of existing/future implementations
- Search capabilities for structured and unstructured data
- Collaboration through enterprise portals and content & knowledge management
- Capacity and application performance planning

PHASE 3

Designing, Building and Managing Historical and Operational Information Stores

Processes:
- Determine data requirements of knowledge workers and decision makers
- Perform information and data modeling
- Construct meta data repository
- Extract, cleanse, transform and load data into informational data stores
- Create basic queries and reports
- Manage and enhance historical and operational information stores

Product and Service Categories with Functions:
- Database management systems
- Information and data modeling
- Meta data repository management
- Extract, cleanse, Transform, Load (ETL) capabilities
- Basic OLAP cubes

PHASE 4

Information Retrieval and Reporting by Leveraging Off-the-Shelf Enterprise Software

Processes:
- Identify the querying and reporting functions available in the operational systems currently deployed in the enterprise
- Identify and evaluate BI products that provide out-of-the-box business analytics
- Design and implement BI applications to achieve objectives for actionable decision making

Product and Service Categories with Functions:
- BI querying and reporting
- ERP
- CRM
- SCM
- eCommerce

PHASE 5

Data Visualization, Prediction and Presentation by Leveraging Customized Solutions

Processes:
- Evaluate the needs for customization
- Develop BI applications: OLAP, mobile, business analytics and data mining
- Evaluate progress against balanced scorecards
- Implement executive dashboards

Product and Service Categories with Functions:
- Customization services
- OLAP applications
- Querying, reporting, analyzing and forecasting
- Mobile applications
- Business analytics with balanced scorecards, executive dashboards and data mining

PHASE 6

Managing and Enhancing BI Applications and Infrastructure

Processes:
- Support BI applications by providing maintenance services, security, disaster recovery and training
- Implement help-desk procedures for the BI environment
- Consider outsourcing to improve ROI
- Identify current system deficiencies and future needs for improving the BI environment

Product and Service Categories with Functions:
- Training
- Systems usage and performance monitoring
- Security and disaster recovery management
- Capacity and performance management
- Help-desk support
- Outsourcing

PHASE 2

VENDOR	PRODUCT NAME
Autonomy	IDOL Server
BEA Systems	BEA WebLogic Platform™
BroadVision	BroadVision One-To-One® Portal™
Business Objects	BusinessObjects Enterprise 6
Computer Associates International	CleverPath Portal
DataMirror	iCluster™
Docent	Docent Enterprise™ Suite
Documentum	Documentum
EMC	EMC Celerra
EMC	EMC Centera
EMC	EMC Symmetrix DMX Series
Google	Google Search Appliance
Hewlett Packard	HP Business Critical Servers
Hummingbird	Hummingbird Portal™
IBM	IBM eServers™
Interwoven	Interwoven TeamSite™ Content Server
Lawson	Lawson Enterprise Knowledge Management
Microsoft	Microsoft Office Systems
Netegrity	Netegrity SiteMinder®
Novell	Novell NetWare®
OpenText	Livelink™ Enterprise Suite
Oracle	Oracle Business Intelligence Solutions
Plumtree	Enterprise Web Suite
RSA	RSA ClearTrust™
RSA	RSA SecurID®
SAP	mySAP Business Intelligence
SAP	SAP NetWeaver
Software AG	Tamino XML Server
Stellent	Stellent™ Content Management
Stratify	Stratify Discovery System™
Symantec	Symantec™ Client Security
TIBCO	TIBCO ActivePortal™
Unisys	ES7000 Servers
VeriSign Payment Services	VeriSign® Managed Security Services
Vignette	Vignette® Business Integration Studio
Vitria	BusinessWare®
Yahoo/Inktomi	Yahoo! Search Engine

PHASE 3

VENDOR	PRODUCT NAME
Ab Initio	Co>Operating System
Actuate	Actuate
Ascential Software	Ascential ProfileStage™
BMC Software	SmartDBA™
Brio Software	Brio Performance Suite™
Business Objects	BusinessObjects Enterprise 6
Cognos	Cognos® DecisionStream
Data Advantage Group	MetaCenter™
Data Junction	Data Junction® Integration Studio
DataMirror	Transformation Server™
Embarcadero Technologies	DT/Studio
Evoke Software	Evoke Axio™ Product Suite
Evolutionary Technologies International, Inc.	ETL Solutions™
GoldenGate	GoldenGate
Group 1 Software	DataSight™
Hummingbird	Hummingbird ETL
IBM	DB2 UDB Data Warehouse Editions
IBM	Rational Rose®
Informatica	Informatica PowerCenter®
Informatica	Informatica SuperGlue™
KALIDO	KALIDO™ Dynamic Information Warehouse
Mercator	Mercator® Inside Integrator
Microsoft	Microsoft SQL Server™
Oracle	Oracle 9i Database
Oracle	Oracle 9i Developer Suite
PeopleSoft	PeopleSoft Enterprise Warehouse
Sagent (G1 Software)	Sagent ETL Solutions
SAP	mySAP Business Intelligence
SAS	SAS® Enterprise ETL Server
SeeBeyond	e*Gate™ Integrator
Synopsis	Sunopsis™
Sybase	Industry Warehouse Studio™
Sybase	Adaptive Server Enterprise®
Sybase	Sybase IQ™
Teradata-NCR	Teradata Warehouse
TIBCO	TIBCO ActiveEnterprise™
Trillium Software	The Trillium Software System®

PHASE 4

VENDOR	PRODUCT NAME	VENDOR	PRODUCT NAME
Actuate	Actuate	KANA	KANA iCare Marketing
Ariba	Ariba Analysis™	Manugistics	Manugistics SCM
BEA Systems	BEA Liquid Data for WebLogic™	Maximizer	Maximizer Enterprise™ CRM
Brio Software	Brio Performance Suite™	Microsoft	Microsoft Reporting Services
BroadVision	BroadVision One-To-One® Business Intelligence™	Onyx Software	Onyx Enterprise CRM
Cognos®	Cognos® ReportNet™	Oracle	Oracle E-Business Intelligence
Commerce One	Commerce One Conductor	PeopleSoft	PeopleSoft
Computer Associates International	CleverPath OLAP	Pivotal	Pivotal CRM
Crystal Decisions	Crystal Reports®	Sagent (G1 Software)	Sagent Data Load Server
Hummingbird	Hummingbird BI™	SAP	mySAP Business Suite
i2	i2 Six	SAS	SAS® Customer Relationship Management Solutions
Information Builders	WebFOCUS	Siebel Systems	Siebel CRM
J.D. Edwards	J.D. Edwards ERP	Verity	Verity K2 Enterprise

PHASE 5

VENDOR	PRODUCT NAME
Accenture	Services
Actuate	Actuate
Applix	Applix TM1
BearingPoint	Services
Brio Software	Brio Metrics Builder™
Business Objects	BusinessObjects Enterprise 6
Cap Gemini Ernst & Young	Services
Cognos	Cognos® PowerPlay
Computer Associates International	CleverPath Aion Business Rules Expert
Deloitte Consulting	Services
Fair Isaac	Fair, Isaac Business Science™
Hyperion	Hyperion Essbase XTD Analytic Services
IBM	DB2 Intelligent Miner™ for Data
IBM Global Services	Services
Informatica	Informatica PowerAnalyzer™
Lawson	Lawson Enterprise Performance Management Suite
Microsoft	Microsoft Analysis Services
MicroStrategy	MicroStrategy
Oracle	Oracle Business Intelligence Solutions
PriceWaterhouseCoopers (IBM)	Services
ProClarity	ProClarity® Analytics Platform
SAP	mySAP Business Intelligence
SAS	SAS® Analytics
SAS	SAS® Enterprise Business Intelligence Server
SPSS	*Clementine®*
SPSS	SPSS Predictive Marketing™
Sybase	iAnywhere Solutions

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Neither a product nor a system, Business Intelligence (BI) is an architecture – a collection of interrelated operational and business performance measurement applications and databases.

The only way to succeed with BI applications is to understand their complexity, their cross-organizational nature, the needs of knowledge workers, your competition, your market, and customer trends.

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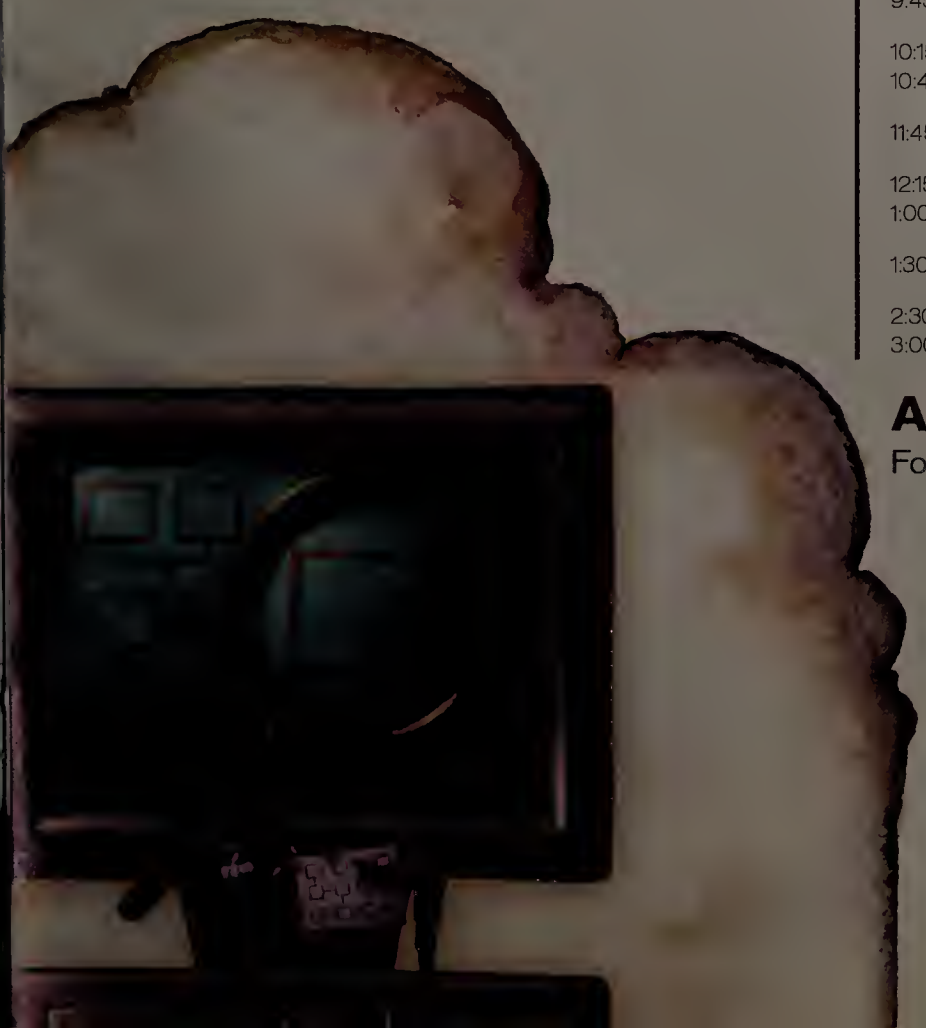
*Complimentary registration is restricted to qualified IT executives only.



New York City • September 23, 2003

Hilton New York • 1335 Avenue of the Americas

8:00am to 8:30am	Registration and Networking Breakfast
8:30am to 9:00am	**Turning Information into Insight: The Changing Role of Business Intelligence in the Enterprise** Maryfran Johnson, Editor in Chief, Computerworld
9:00am to 9:45am	**A Case Study: Building a Genuinely Customer-Focused Organization to Drive Customer Retention, Loyalty and Profitability** Tony LoFrumento, Executive Director, Customer Relationship Management, Morgan Stanley
9:45am to 10:15am	Chris Thomas, Chief Strategist, Intel
10:15am to 10:45am	Refreshment and Networking Break
10:45am to 11:45am	**High-Impact Strategies for Delivering Business Intelligence Results** Panel Discussion moderated by Julia King, National Correspondent, Computerworld
11:45am to 12:15pm	**Evolving the Enterprise: Leveraging Information for Competitive Gain** Jim Davis, SVP, SAS Institute
12:15pm to 1:00pm	Networking Luncheon
1:00pm to 1:30pm	**Building Innovation into a Business Intelligence Infrastructure** Shaku Atre, author of Business Intelligence Roadmap and President, Atre Group
1:30pm to 2:00pm	**Turning a Legal Eye on IT Governance** James Hackett, Jr., Partner, Choate, Hall & Stewart
2:00pm to 3:00pm	**Regulated IT: Uncle Sam Wants Your Data** Panel Discussion moderated by Tom Hoffman, Computerworld Reporter
3:00pm	Program concludes

San Francisco • September 25, 2003

The Fairmont San Francisco • 950 Mason Street (Nob Hill)

8:00am to 8:30am	Registration and Networking Breakfast
8:30am to 9:00am	**Turning Information into Insight: The Changing Role of Business Intelligence in the Enterprise** Maryfran Johnson, Editor in Chief, Computerworld
9:00am to 9:45am	**The User Experience: An In-Depth Case Study**
9:45am to 10:15am	**Thriving in Times of Transition: One CIO's Perspective** Doug Busch, CIO, Intel
10:15am to 10:45am	Refreshment and Networking Break
10:45am to 11:45am	**High-Impact Strategies for Delivering Business Intelligence Results** Panel Discussion moderated by Julia King, National Correspondent, Computerworld
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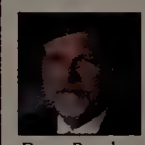
1:30pm to 2:30pm	**Regulated IT: Uncle Sam Wants Your Data** Panel Discussion moderated by Tom Hoffman, Computerworld Reporter
2:30pm to 3:00pm	Thornton May, IT Futurist and Computerworld Columnist
3:00pm	Program concludes

Selected speakers include:

Tony LoFrumento
Executive Director
Customer Relationship Management
Morgan Stanley

Shaku Atre
Author
Business Intelligence Roadmap

Thornton May
IT Futurist



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White House Taps Energy Dept. CIO to Head E-gov Office

Private-sector executives express their support, optimism for strong leadership

BY DAN VERTON

President Bush plans to appoint Karen Evans, CIO at the Department of Energy, to become the new head of the administration's e-government initiatives, the White House announced last week.

Evans, a 20-year veteran of the government IT community, will succeed Mark Forman, who last month left the post of administrator of the Office of Electronic Government at the White House's Office of Management and Budget to work in the private sector.

The pending appointment of Evans is getting strong support from private-sector executives.

"In the technology arena, there are those who get it and those who get it done. Karen Evans is one of those highly valued leaders who possess both essential qualities," said Bill Conner, CEO of Entrust Inc. in Addison, Texas. "Given her experience at the U.S. Department of Energy and leadership on the [federal] CIO Council, Karen knows firsthand what it takes to successfully execute the strategy and architecture that she played a role in developing with Mark Forman and his team," Conner said in a statement.

Norm Lorentz, the government's chief technology officer, who took over Forman's post on an interim basis, called Evans a "great selection."

Lorentz said the quickness of the appointment shows that the administration understands the importance of the e-government program.

Jim Kane, CEO of McLean, Va.-based Federal Sources Inc., a research and analysis firm that focuses on the federal IT market, said Evans' appointment could help advance the government's IT agenda.

KAREN EVANS has 20 years of government IT experience.

"Karen is the right person in the right job at the right time," said Kane. "Mark [Forman] was the visionary, the change agent. But things are now at the stage where somebody like Karen, who has a strong operational perspective, is the right person to make things happen."

Kane added that having Evans in this position is probably going to strengthen the position of the e-government administrator, which is essentially the de facto federal CIO.

In the early years of Forman's tenure, there was tension between the CIO Council, on which Evans served as co-chairman, and the Office of Management and Budget, Kane said.

In those days, "OMB was a bit of a bystander, while the CIO Council was setting the agenda," said Kane.

"Forman, to his credit, was marching to the beat of the president's management agenda. But [Evans'] appointment can neutralize that tension" by bringing her fellow CIOs on board with the larger e-government agenda, he said.

The timing of the appointment coincides with one of the most critical spending and budgeting times for the government. Typically, spending in September can account for as much as 25% of the government's overall IT budget, because agencies must begin submitting funding requests for new budgets in October and must spend any remaining IT dollars before they're lost.

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Linux to Play Key Role in Archival Database for Moving Images

IBM to contribute pSeries servers

BY TODD R. WEISS

Three U.S. universities and the Library of Congress are working with IBM to develop a Linux-based repository of film and broadcasting archives.

In an announcement last week, IBM was named the lead hardware vendor for the database project, which will use the company's eServer pSeries servers.

Jim DeRoest, assistant director of computing and communications at the University of Washington in Seattle, which is helping to develop the database, said the project has long been a goal of researchers and is coming together now with help from a $900,000 grant from the National Science Foundation.

The Moving Images Collections database and Web portal will run on two IBM eServer p630 and two eServer p610 servers running SuSE Linux and IBM Directory Server.

The database will run on SuSE Linux AG's Enterprise Server 8 on the IBM hardware, along with various open-source applications used to keep costs down, according to DeRoest.

The Power-processor-based servers were chosen because they have had good track records at each of the participating universities. "All of us were fairly satisfied with the scalability," he said. Problems arise when vendors make changes to Intel-based hardware and Linux doesn't include the new device drivers that are needed, DeRoest said. But the "consistency of hardware" gained by using the Power-based pSeries servers should solve the problem.

Barbara Humphrys, who works in the Library of Congress' motion picture, broadcast and recorded sound division, said the database will make it easier for historians and researchers to find images and films. "We're kind of starting at the beginning," she said. "You'd be surprised where some things are held."

Once the database is built, administrators can add links directly to the content so users can view images and movies, Humphrys said. And users who find the images they're seeking will be able to contact the collection owner to obtain usage rights.

In addition to motion pictures, TV broadcasts and other images, the database will feature archives from the Smithsonian museums.

The Library of Congress will host the Web site for the Moving Images Collections database when it debuts next year. An early version of the Web site is already online [QuickLink a3610].

Also participating in the project are Rutgers University Libraries in New Jersey and the Georgia Institute of Technology. The University of Washington and Rutgers are designing and developing the directory and catalog databases of digital images, and the Georgia Institute of Technology is developing the Web portal.

JUST THE FACTS

What's behind the database project?

- **Funding:** A $900,000 National Science Foundation grant
- **Hardware:** IBM pSeries Power-processor-equipped servers
- **Software:** SuSE Linux and other open-source applications

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Robert H. Dorin

Robert Dorin, a member of Aberdeen's server team, focuses on server solutions for high-end enterprise applications. Dorin joined Aberdeen in1996 and has since followed Unix and Windows servers and platforms and ERP systems. Dorin has an ScB in Applied Mathematics from Brown University, an MS in Computer Science from the State University of New York at Buffalo, and an MBA from Northeastern University.

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A few minutes with Robert Dorin,
Vice President, Research
Enterprise Server Solutions
Aberdeen Group

Changing the Economic Equation

> Do you think "Business Intelligence" for the entire enterprise is reality, and why?

The concept of BI for the enterprise is reality for some enterprises, but not for many. Many organizations still analyze business data behind closed doors and pass the directives down to business managers who understand neither the framework of the data that's been examined nor the context for the decisions that are being made. Technology is available to deliver BI for the enterprise, but each organization must decide how to implement access to data across different business units and departments.

"The ability to react and respond quickly to buying patterns and other external events is critical to gaining advantage."

> What advances are being made within organizations to forward decision-making at all levels of the organization?

This relates back to the first question. When different departments within an organization are able to work from a common data analysis framework—for example, how revenues, profitability, and other key performance indicators (KPIs) are being measured—the potential for accurate and consistent decision-making is much greater. BI products provide the technology to deliver such a common framework.

> Can "Business Intelligence for the Masses" create a strategic competitive advantage for an organization against its competition?

Absolutely. The ability to react and respond quickly to buying patterns and other external events is critical to gaining advantage. Complex data analytics capabilities are valuable, but the ability to share the data and the result of the analysis not only within an organization but also between partners—for example, a retail outlet and its suppliers—is extremely powerful.

> What has changed from the traditional Data Warehousing efforts of the 90s to the Business Intelligence projects that are being implemented today? (users, cost, application, process)

Obviously, PCs and Web browser access are more ubiquitous today than they were even 10 years ago. Data sharing enhances the level of cooperation among departments and among business partners. While BI software ranges from high-end (i.e., expensive) analytics to less sophisticated (Excel-driven) tools, the infrastructure to deliver BI to many more users in the enterprise is inexpensive and, in most cases, already in place.

> In today's economy, which businesses or business practices have the most to gain from Business Intelligence?

Those businesses that are able to make changes in their product marketing quickly and frequently can benefit a great deal from BI. Retail businesses such as consumer packaged goods manufacturers are constantly making pricing, packaging, and placement decisions. Banking and financial services similarly function in a dynamic and volatile environment. With many businesses accessible to their customers online, data can be gathered almost instantaneously after implementing a change. BI plays a critical and fundamental role to online services, such as eBay, amazon.com and the travel sites.

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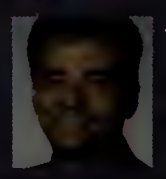

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Appliance Boosts Database Performance

BY JAMES NICCOLAI

Oracle Corp. users who run complex queries on their databases but can't afford the related drag in performance may find relief in a new product due in October from Tel Aviv-based InfoCyclone Inc.

The start-up's server appliance is designed to improve database performance by storing frequently accessed data in its main memory, offloading work from the main server. The first appliances will have 4GB and 16GB of memory and will be priced at $50,000 and $150,000, respectively.

The appliance watches SQL queries as they come into the database and stores frequently accessed data for faster retrieval. The next time the queries are run, the appliance executes them from memory using a high-speed, read-only SQL engine. As information in the database changes, the data stored in the appliance is kept up to date using Oracle's Log Miner tool.

"We're adaptive in the sense that we're constantly monitoring traffic and rearranging data so that it's always optimally arranged for the queries," said Ran Giladi, InfoCyclone's chairman.

Lower Licensing Fees

Adventatia AG, a German company that matches unemployed workers with available jobs, attached the appliance to its database of some 12.5 million records. The company can now find matches faster and has managed to reduce its Oracle licensing fees, said Olaf Schmitz, Adventatia's CEO.

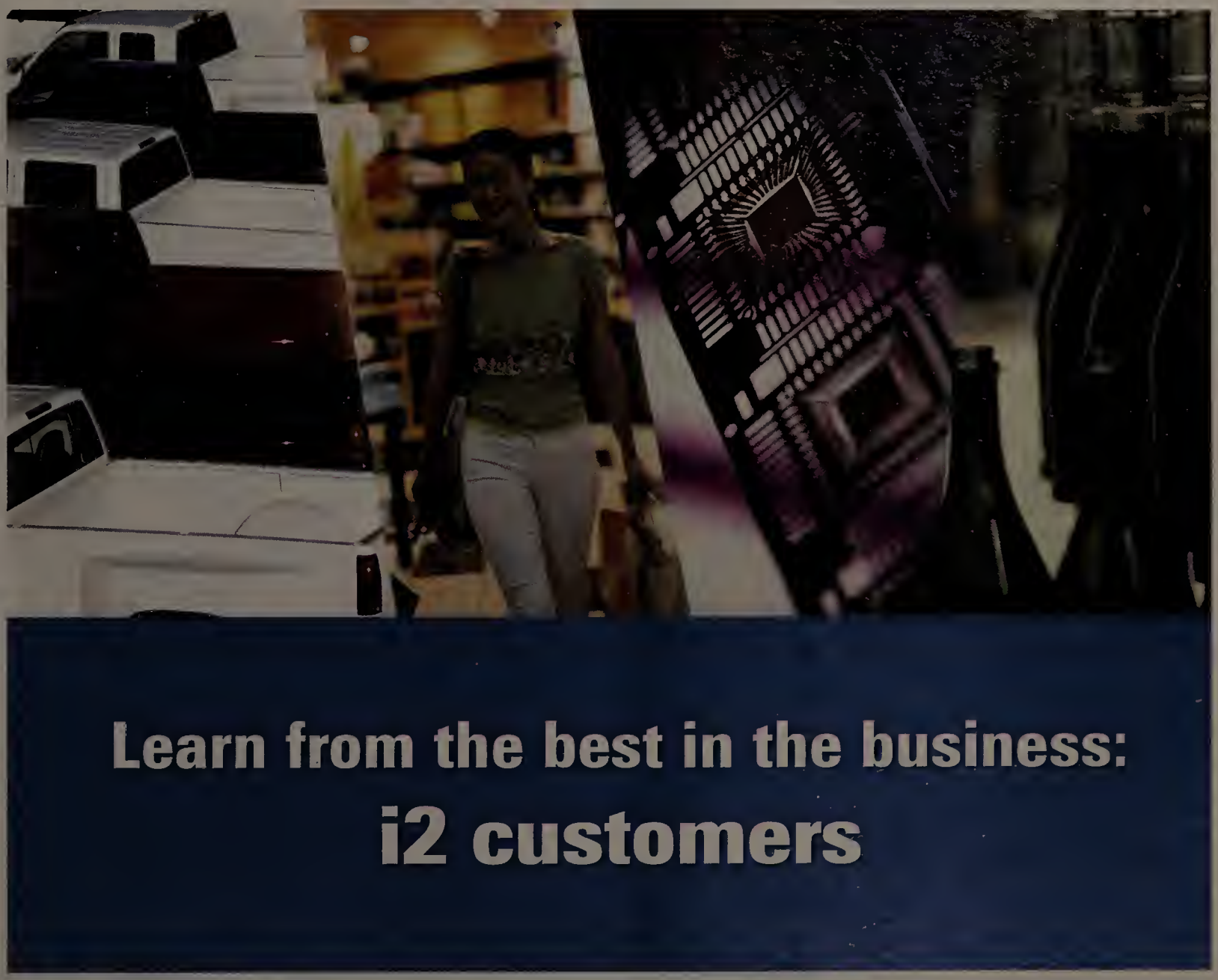
Because the appliance offloads work from its database server, Adventatia has been able to reduce the number of processors in its Sun Microsystems Inc. system from four to two, thereby reducing its database license fees. And the response times for its queries are seven times faster on average, Schmitz said. "We got more speed with a cheaper machine," he said.

Adventatia got its appliance about five months ago as part of InfoCyclone's pilot program and has decided to keep it. Its database is relatively simple, using only three columns for most of its queries, Schmitz said, so it was able to buy the less expensive 4GB system.

"I'm not aware of anyone doing quite the same thing," said Richard Ptak, an analyst at Ptak & Associates Inc. in Amherst, N.H. And the price seems reasonable, he added.

One rival may be Arlington, Va.-based Appfluent Technology Inc., which sells a replication server designed to generate reports more quickly. ◗

Niccolai writes for the IDG News Service.



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MARYFRAN JOHNSON

Resource for Recovery

LET'S INDULGE OURSELVES in a little optimism. Let's assume that the latest upbeat surveys about IT spending in 2004 are right on the money.

MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at maryfran_johnson@computerworld.com.

Our sister publication *CIO* magazine reported last week that its monthly tracking poll among 200 CIOs showed a substantial uptick in planned technology spending of 6.4% over the next year. Our own front-page story ["IT Budget Boosts Seen in 2004," QuickLink 40965] had industry experts projecting tech spending increases of 3% to 5%, as corporate revenues recover, business and consumer confidence returns and IT projects start shifting off back burners.

If even some of the above comes true and spending does loosen up, the next question usually becomes: Which market segment will reap the most benefit? Will it be security software? Web services? CRM? Infrastructure or network upgrades?

Actually, I think there's a more compelling set of questions for IT managers to consider. How will your relationship with your key vendors change during the next economic upswing? Will you evaluate their next round of products and services the same way you always have? Is there something more you could be doing to enrich your side of the equation?

Here's my best advice: Get to know their CIOs, CTOs and other key people within their IT organizations. If you can, join their user advisory councils. Where are they investing and expanding? Trimming back and consolidating? And how are they using their own products and services?

The importance of this deeper familiarity with your vendors' internal IT operations struck me last week when I was visiting Qualcomm Inc., the San Diego-based wireless communications provider. I spent an hour there with CIO Norm Fjeldheim, talking about how he runs his technology operation, manages an IT staff of about 550 and juggles his resources in a tight budget space.

Like the top technologist at any company these days, Fjeldheim worries about the pernicious impact of spam, the wave of virus attacks and a long lineup of integration and infrastructure projects. His 2004 projects list runs the gamut: a storage-area network expansion, some high-end Unix migrations, growing use of Web services, Windows 2003 upgrades and new Linux installations.

"I blinked and I had 500 Linux machines in here," Fjeldheim says. He gives the Linux-on-Intel boxes high marks for performance and cost-effectiveness, but he notes that a dearth of applications and engineering tools is holding back larger deployment.

Fjeldheim encourages Qualcomm's individual business units to take ownership of their IT choices. "IT is a standard services offering here," he notes. "If the business units want to do something different, I say, 'Go for it.' Can they justify it to management? Most of the time, they use us internally."

Over the past four to five years, Fjeldheim has moved much of the cost of IT out into the departments. "About 40% of my costs are not under my control, though I manage [the technology] for the business units," he adds. "The result is much better decision-making on their part and an improved relationship with IT. You have to do two things: change behaviors and pass along the savings."

Fjeldheim's world isn't unlike yours. And other vendor CIOs are probably facing project lists that are a lot like yours, too. Add in their in-depth familiarity with their own companies' products, and you have compelling reason to develop a new relationship with your strategic vendors' IT bosses. ◗

PIMM FOX

How Supply Meets Demand

THE REAL POWER of e-commerce begins with an accessible and usable catalog of products. Businesses with fragmented, inconsistent online product listings are like doughnuts: They have a substantial exterior with a big hole in the middle.

Thanks to the efforts of Lawrenceville, N.J.-based UCCnet, a nonprofit registry of business data for Internet-based supply chains, standard formats for product descriptions in 23 industries have been developed, making it possible to organize and share information across companies. And tapping into this industry-standard approach should make it a no-brainer to convey product data electronically throughout a trading network.

FullTilt Solutions Inc. in King of Prussia, Pa., has adopted UCCnet standards for its product management software, I-Accel. Product data loaded into I-Accel becomes the central registry. The Web-based electronic catalog can be the touchstone for specs and prices and serve as a reference guide to your supplier backbone. In addition, when you push the catalog out to customers via a Java servlet, you give them the chance to view the same catalog. In the process, you eliminate mistakes made with faxes, phone calls and multiple product sheets.

FullTilt's software is designed to accept data in consistent formats while taking into account the changing and evolving nature of product specifications. And while it offers a view-only presentation, it's compatible with XML, meaning connections to transactional applications are possible. At the very least, you'll have a comprehensive and consistent register of products that can be linked to invoicing and accounting procedures.

Joe Pleasant, CIO at Premier Inc. in Charlotte, N.C., says his nonprofit hos-

pital alliance shares product info using I-Accel across its 1,500 hospitals. With it, he's able to store product items in a master catalog that allows him to easily segregate different categories of products, such as surgical or laboratory supplies, for different members of the health care alliance.

"We're able to connect line items with contracts across our network," said Pleasant. "This makes it possible to do analysis of products, compare pricing and organize our spending." He calls it "master list integrity."

Another advantage of the product management system is synchronization with downstream partners. A Java Database Connectivity-compliant shared repository lets partners have a look at a common product line, which helps to improve order efficiency and invoice accuracy.

Retailers such as Wal-Mart are employing UCCnet formats in product management to improve the accuracy of transactions with suppliers. And we all know what happens to suppliers that don't listen to Wal-Mart: They don't get the business. ◗

ANDREW FANO

The New Internet Cops

WE HAVE long lived in a cops-and-robbers society, where the good guys catch the bad guys. Yet in the online world, the long arm of the law is noticeably shorter.

The onus of policing the Internet still falls primarily on business, not government. In the physical world, should someone come into your store and steal a CD, it's not up to you as the store owner to collect evidence and take the individual into custody. It's the responsibility of the police. But that's not the case online.

Things are beginning to change, though. The Justice Department earlier this year launched Operation E-Con, a crackdown on cybercrime that has resulted in the arrests of more than 100 suspects who allegedly collectively bilked an estimated 89,000 victims out of $176 million.

Still, traditional law enforcement agencies are ill prepared to address the novel forms of cybercrime, including auction fraud, identity theft, slander, defamation, cyberstalking, infringement of intellectual property, corporate theft, pornography and more. And cybercrime is growing fast. Last year, the Internet Fraud Complaint Center, a partnership between the FBI and the National White Collar Crime Center, received more than 75,000 complaints, 67% more than in 2001.

ANDREW FANO is a senior researcher at Accenture Technology Labs in Chicago.

The absence of government enforcement has even given rise to online vigilantism. On eBay, for example, sophisticated participants who suspect a scam will bid an exorbitant amount to win an auction but then won't pay, effectively nullifying the auction. As with all vigilante efforts, the innocent get punished along with the bad guys.

And then there's music. A market research study recently revealed that 43 million Americans — half of all those connected to the Internet — use file-sharing software that allows them to copy music without paying for it. Yet the recording industry is left to sue Internet service providers to disclose the names of individual users one at a time. Why are companies suing instead of district attorneys prosecuting?

Today, pirates feel a sense of safety in numbers. Anti-piracy approaches that scale to a significant proportion of those numbers are needed. Some foreign governments are attacking such problems from the top down by altering the infrastructure. For example, *Newsweek* reported that China has worked with technology providers to deploy routers that have been altered to allow the tracing of communications by citizens.

Punitive measures must also change. Hacker Kevin Mitnick's three-year banishment from the Internet — a condition of his parole — may be seen as an early example of what might be termed "e-punishment." Government may avail itself of more precise tools that prevent violators from contacting certain individuals or organizations, engaging in particular commercial activities or using particular services.

Such measures may smack of Big Brother, but in practice they may be more humane and economical than more traditional punitive measures. They are feasible, however, only if government and business cooperate.

Consider the problem of inspecting shipments at a border. Only by linking real-time online supply chain and relevant homeland security information resources can business and government ensure that imports aren't at risk of becoming national security concerns. In fact, we may find that some of the capabilities of enterprise software may make them dual-use technologies. After all, the ability to identify the position of shipments that may include hazardous materials is useful from both a supply chain and a security perspective.

Such scenarios could leave the impression that government will soon take over the online world. This misses the point. Instead, it is more reasonable to expect that a combination of technology, private business and government will act to fill the vacuum left by the absence of government. ◗

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READERS' LETTERS

Dealing With Blaster and Microsoft

THE BLAME for the situation described in "Microsoft, Users Cope With Worms' Chaos" [QuickLink 40817] lies squarely on the shoulders of the team of developers at Microsoft who wrote code but didn't check buffer size for overflow. This concept is simple and obvious. If you're going to write low-level logic to move data around memory, you're responsible for making sure that you don't corrupt memory. But that doesn't excuse the individuals who are exploiting these bugs.

Stephen Zlamany
President, Antares Computing Systems Inc., Huntington, Conn.

UNFORTUNATELY, applying patches is inherently dangerous ["Blaster Shows IT Departments the Need for Speed on Patches," QuickLink 40608]. Most sysadmins I work with are reluctant to apply the latest hot fixes because they're terrified about what they will break. One is pressured by management to deploy the latest fix for a rapidly spreading worm, like Blaster, but then clubbed by the same management if it brings down some critical service. The latest batch of security updates crippled our server for a day. I would propose that the process itself is broken. What is really needed is to insist on quality code that doesn't die with buffer overflows and similar lame, newbie programmer flaws. There is too much rush to get "new" out at the expense of "good."

Gregory Latiak
Technology Strategists Inc., Toronto, glatiak@tekstrat.com

AUTOMATIC PATCHING would be an acceptable response if Microsoft could guarantee no side effects ["Microsoft Explores Automatic Patching," QuickLink 40830]. Unfortunately, Microsoft has a long and consistent history of issuing patches that break other parts of the operating system or are incompatible with other software. Even if Microsoft is quick to issue patches to cover security vulnerabilities, many systems and network people are reluctant to apply them immediately for fear of bringing down their systems. I would never turn a machine over to Microsoft for automated patching. Their poor software caused the initial problem; what guarantee would I have that the patch wouldn't make matters worse?

P.D. Levin
Systems engineer, Pittsburgh

UCITA Revolution

SO LAWYER and UCITA backer Chuck Morton doesn't believe that a law that authorizes what would otherwise be criminal hacking and that makes binding contracts that are hidden behind shrink-wrapped packaging is revolutionary ["Sponsor's Surrender Won't End UCITA Battle," QuickLink 40484]. I can't arrive at any acceptable method to justify this reasoning. I refuse to accept that people who buy software are so rich that they have no reason to object to ridiculous terms that can obligate them to massive additional payments.

Charles J. Lingo
Ponchatoula, La.

Talent Is Out There

IF, AS YOUR HEADLINE SAID, "IT Departments Face a Lack of Project Management Know-how" [QuickLink 40441], a lack of training dollars isn't the problem. As a highly experienced project manager with some 20-plus years in the field, I feel that companies that lack project management skills in their employee base aren't doing enough to recruit the unemployed project managers who are out in the marketplace now.

Jon R. Hickman
Dallas, hickman@azone.net

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EMERGING TECHNOLOGIES

The Once and Future IT

Vendors are racing one another to see which of them can deliver the most comprehensive tools to automate complex IT tasks. But autonomic computing still has a long way to go. **Page 28**

IT Tackles Cosmic Questions

Off-the-shelf fiber-optic gear will help the National Radio Astronomy Observatory's Very Large Array radio telescope "see" better. **Page 30**

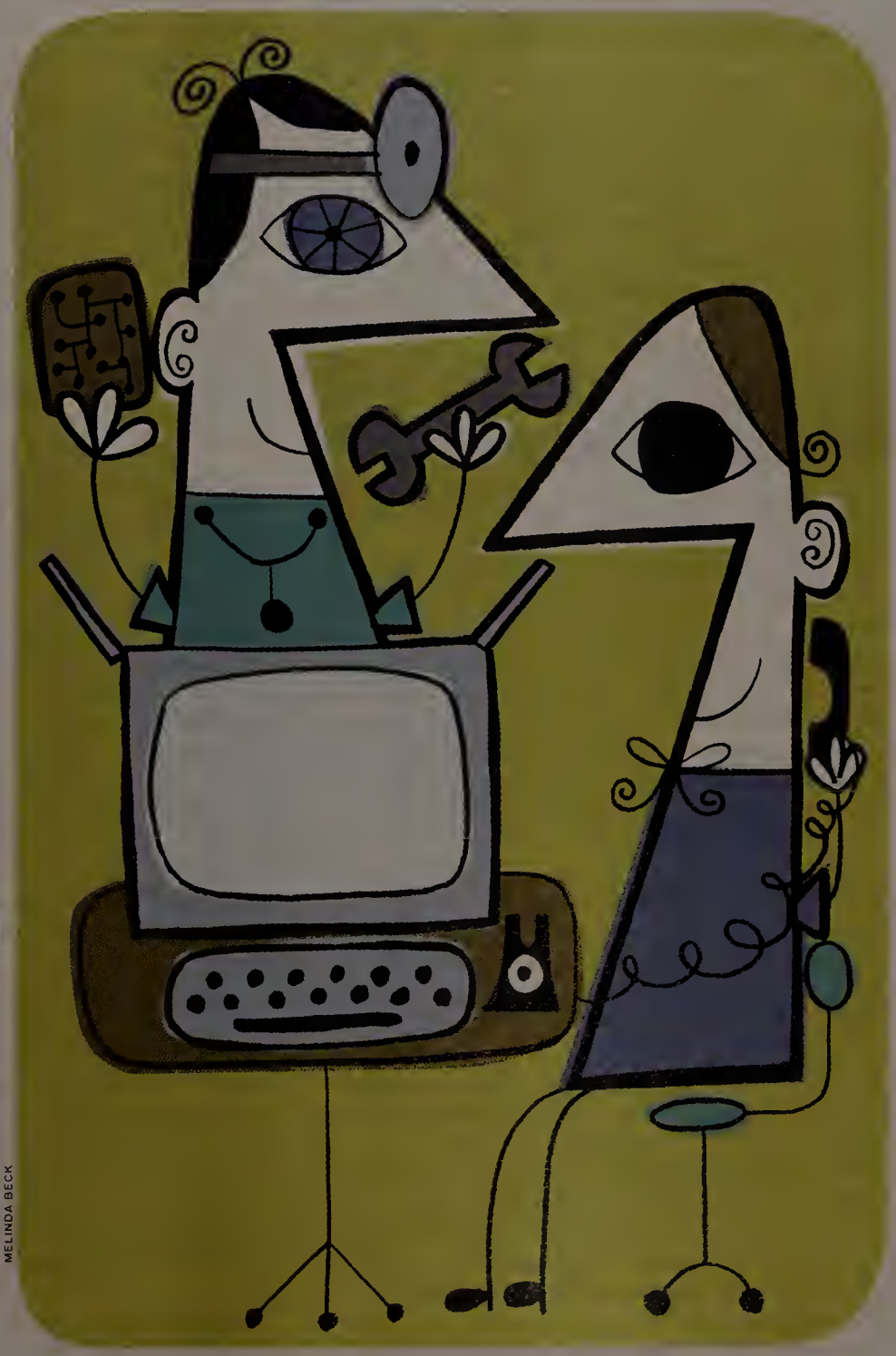
SECURITY MANAGER'S JOURNAL

Corporate Network Blasted From Abroad

Precautions at corporate headquarters notwithstanding, the Blaster worm breaks in by way of an unprotected overseas office. **Page 31**

FIRST Help IS BEST

Because help desks are becoming a more strategic component of the business, Level 1 support agents are getting their hands on more tools. By Kym Gilhooly



MELINDA BECK

IT'S ONE OF THE REALITIES OF HIS job, says David Harkett, that almost anyone can recognize the costs of a badly run help desk, but few people understand the value of a help desk that solves problems quickly, consistently and with the fewest possible resources.

"The costs of a help desk is a bottomless black hole — problems never go away," says Harkett, the help desk practice technical solutions manager at London-based BT Group PLC's BT Global Services unit. "It's not so much the money but how you spend it, how you maximize support while not overstretching your resources."

That's no easy balance to maintain when the scope of the task is exploding. "Five years ago, IT help desks were supporting an average of 25 applications, a number that grew to 200 in 2001. Today, some are supporting in the range of 300 applications," says Kris Brittain, an analyst at Gartner Inc. "With the service and support delivery model, there's such pressure to deliver. But cost is king, so there's a real need for process refinement."

This need is bringing unprecedented attention to help desks' ability to resolve users' problems during the initial call and is driving them to automate support in areas such as diagnostics, self-healing, asset management and electronic software distribution. Not only are businesses increasingly implementing self-service channels and building knowledge bases to enable users to solve problems themselves whenever possible; they're also empowering front-line agents as never before. Remote support tools that were traditionally the province of Level 2 and Level 3 engineers are now in the hands of Level 1 agents — and those tools are becoming increasingly sophisticated in using the Internet to deliver diagnostic, collaboration and problem-resolution capabilities.

"The automation segment is getting very interesting: From the mid-'90s until now, there's been a lot of focus on what's happening in Tier 1 support, so there's been consistent improvement at what's available at the agent level," says Brittain.

Although help desk managers still worry about security when supporting machines outside corporate firewalls — and dealing with users who are reluctant to hand over control of their

Delivering Support

In a recent SupportIndustry.com survey that was sponsored by SupportSoft, 98% of 150 help desk and call center respondents said they expect high-quality support to become more difficult to deliver in the next year as a result of technology's increasing proliferation and complexities. Meanwhile, 44% saw their support budgets decrease over the past year, while 71% saw demand for their services increase. To deal with these challenges, they're adopting a number of self-service, automated help and collaborative technologies:

Remote control	50%
Web-based trouble-ticket generation	43%
E-mail autoresponse and suggest	38%
Remote diagnostics	36%
Screen-sharing	34%
Dynamic FAQs	24%
User forums	21%
Chat/instant messaging	17%

SOURCE: SUPPORTINDUSTRY.COM, SANTA BARBARA, CALIF., JUNE 2003

machines — the ability to cut costs while keeping workers productive takes precedence.

"Assisted help technologies are adopted because they increase first-call resolution rates and reduce escalation to Level 2 support," says John Ragsdale, an analyst at Forrester Research Inc. "Average costs for Level 3 support [deskside visits] are between $85 and $120, and companies see 40% to 50% of that reduced by remote support. It's very challenging to walk people through a fix over the phone, particularly if they're not tech-savvy, and remote support eliminates that concern."

Support, From A to Z

Remote support products offer a range of assisted service functionalities. Using secure connections, they can inventory individual machines to put user information in the hands of agents in real time and provide collaborative capabilities so agents can communicate with users during support sessions. If needs escalate, an agent can remotely share a user's desktop, push the appropriate files or take complete control.

Some offerings provide their own intelligent knowledge bases for capturing support session data, while others integrate with third-party offerings. They also integrate with enterprise call management systems to facilitate trouble-ticketing, and in some cases they can be launched from the help desk console.

For its part, BT Group has made support automation a key component of its help desk centralization effort, which started several years ago under a single-point-of-contact model. "Everyone was working in a silo, with no one looking across to see what others were doing. We needed a bird's eye view to build a bridge from A to Z," says Harkett.

The scope of BT's support dictates such a view, he says. From three sites in England and Scotland, the company's 250 help desk analysts support nearly 105,000 employees in the U.K. and other parts of the world, many of whom are mobile. Support challenges are exacerbated by BT's push toward telecommuting, which means it must support home workers over a range of connections.

"Standardization is an increasing concern and something we're looking at closely, but with more than 250,000 machines to support, we have to be able to support anything from Windows 95 to brand-spanking-new laptops. It's hard work," says Harkett.

To automate support functions and provide remote support, BT has deployed a range of home-grown and commercial systems, including software from SupportSoft Inc. in Redwood City, Calif., whose suite includes self-service, assisted service, knowledge management, asset management and self-healing capabilities. There's also a pop-up screen mechanism through SupportSoft's Clarify call management console that provides agents with a user's desktop information as well as any previous trouble tickets that have been generated.

Thanks to improved processes as a result of support automation and other efforts, the first-call resolution rate has climbed considerably. "We aim for 80% fixed at the desk, and we hit that or better," says Harkett.

Although online assisted-service technologies have been a boon for corporate help desks, they've raised concerns in the areas of security and bandwidth use. Some products require companies to reconfigure their firewalls when they're connecting to desktops outside their secured network or to temporarily open up ports, both of which they're reluctant to do.

"I'm paranoid about security, and this industry is very regulated as far as information security," says David Langston, CIO at Allied Home Mortgage Capital Corp., a Houston-based mortgage broker managing $9 billion in assets. "Now it's not an option from a legal perspective, and never was from a business perspective. We need all the warm fuzzies of knowing we're working in a safe environment. We need to know we're negotiating a seamless connection to a remote user and that there's encrypted security built into the process."

With 652 remote offices in 49 states, Guam and the U.S. Virgin Islands, Allied had no choice but to adopt remote support. The company's help desk provides only Level 1 support, so first-contact resolution is key so support doesn't have to be escalated to independent regional contractors. Allied uses Desktop Streaming from Santa Barbara, Calif.-based Expertcity Inc., an application service provider that offers AES 128-bit key encryption to ensure secure connections. The offering requires an alert agent on the technician's desktop, but it doesn't require client software on the user's desktop.

Raymond James Financial Inc. (RJF), which uses the LANDesk Management Suite from South Jordan, Utah-based LANDesk Software Inc., deals with firewall constraints by complementing its LANDesk Management installation with LANDesk's Instant Support Suite Pro (ISSP) product. St. Petersburg, Fla.-based RJF uses ISSP to support independent contractors, which aren't on its frame-relay network and therefore aren't protected by its firewalls, says Andy Nosal, RJF's supervisor of LANDesk operations.

Previously, to set up a remote session, RJF had to open certain ports, or contractors had to move their PCs into the "demilitarized zone," which was time-consuming and left desktops vulnerable to breaches.

RJF uses ISSP under a hosted model for those situations. In addition to providing 128-bit SSL encryption, the product enhances security by uninstalling itself from a client after a session.

Win-Win Situation

Though a lot of users are initially reluctant to allow help desk agents to view and control their machines, they ultimately do so to remain productive. Many agents, meanwhile, are experiencing increased job satisfaction, and when they use chat during remote support, they can handle multiple sessions — something they can't do when using the phone.

"We get great feedback from users on our remote assistance — it wows them," says Mike Wiram, director of computer services at Phoenix-based U-Haul International Inc. U-Haul uses eCare from Emeryville, Calif.-based Netopia Inc. to support Internet-based point-of-sale systems used by 15,000 company-owned and independent dealerships.

"In the past, we had regionally dispersed computer techs driving around fixing broken computers, but it wasn't cost-effective," says Wiram. Now, when users are having problems, they click on eCare and automatically open up a chat session with a support representative. If they can't solve the problem during the chat, the rep asks permission to take control of the machine, which happens in about 10% of cases.

"We have a wide variety of user [platforms], from Windows 95 to XP with IE 6.0. Agents don't uniformly know what they're going to get, but once they take over, they can see what updates are missing, what settings need to be changed," says Wiram.

In addition to enabling quicker fixes, eCare allows agents to conduct multiple support sessions at once using online chat tools. "On the phone, human nature takes over, so if it's a minor problem, people tend to talk about unrelated things during the session. But if it's a chat session, it's 'Just the facts, ma'am,' and that's much more efficient," says Wiram.

"We don't recommend it, but I've seen an agent handle seven sessions at once," says BT's Harkett, adding that juggling multiple sessions is a huge productivity boost, since BT's three help desks each field 30,000 calls per month.

And at the end of the day, it's productivity that drives a business. "Let's face it — it's about the bottom line," says Steve Kutzer, vice president of IT operations at Washington-based CarrAmerica Realty Corp., a real estate investment trust that leases commercial real estate in 10 markets. CarrAmerica uses a service from Fremont, Calif.-based Everdream Corp. to handle remote support for 92 locations in the U.S.

"We have to ask ourselves, How does quality support help us lease space?" says Kutzer. "Basic PC support in and of itself is not strategic to any organization — everything becomes a cost-benefit analysis. For us, cost avoidance means the product pays for itself many times over." ◗

WARY USERS

Users reluctant to let the help desk control their PCs remotely usually warm up to the idea:

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Gilhooly is a freelance writer in Falmouth, Maine. You can reach her at kymg@maine.rr.com.

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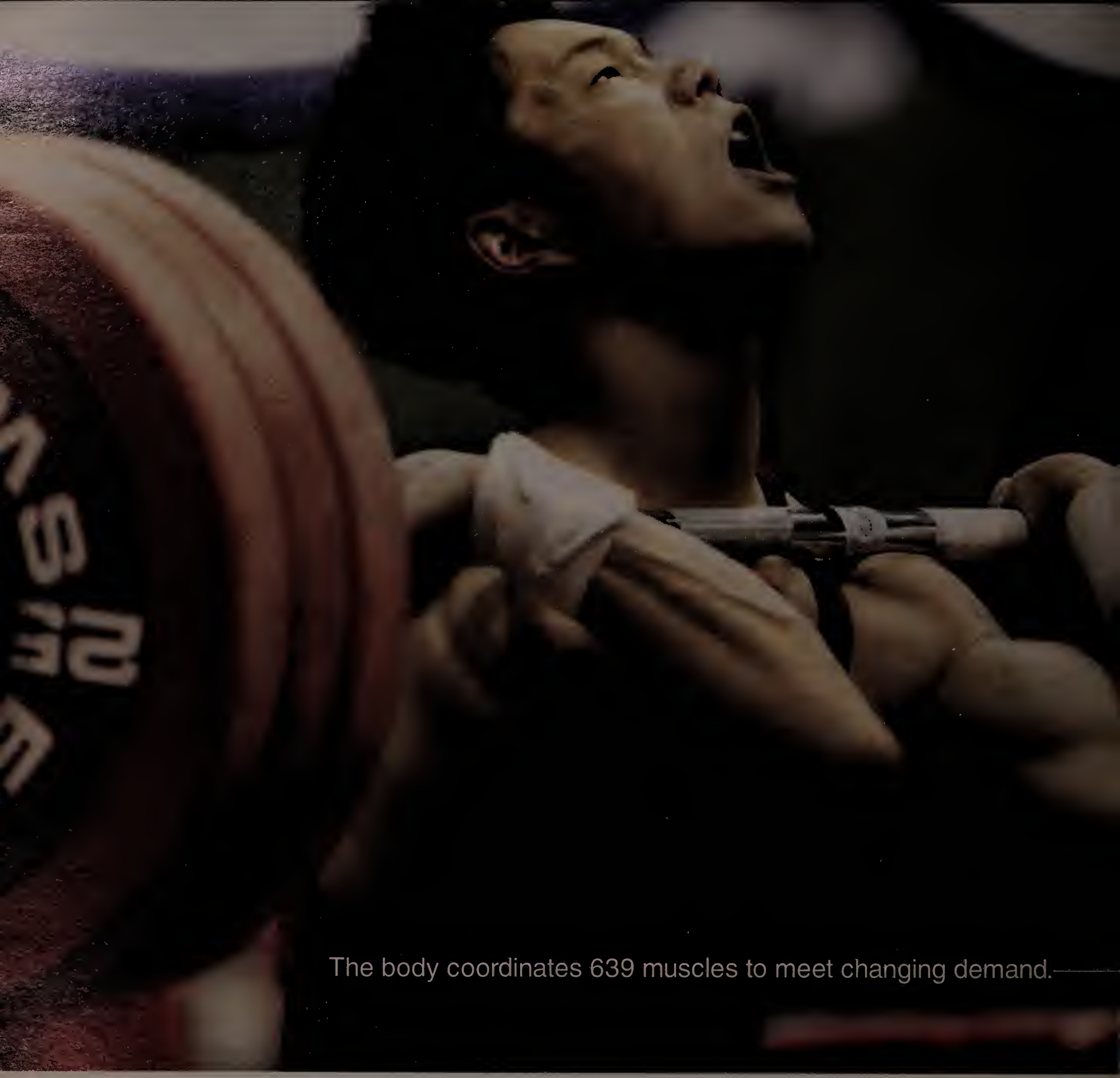

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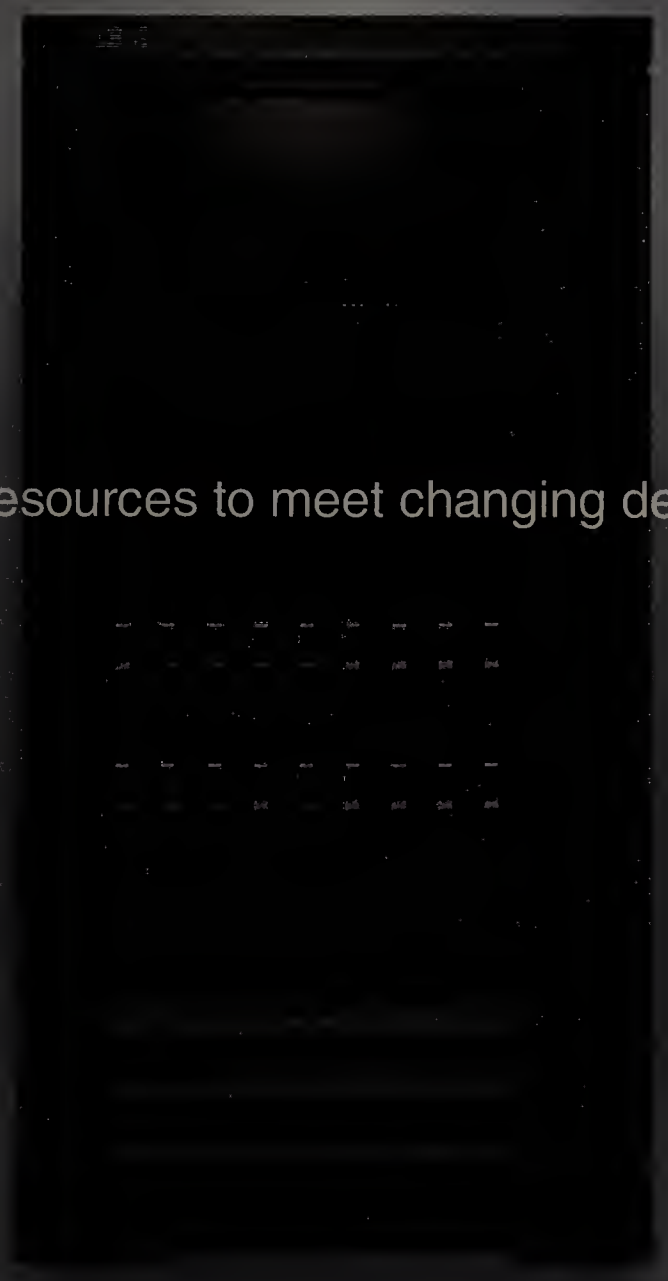

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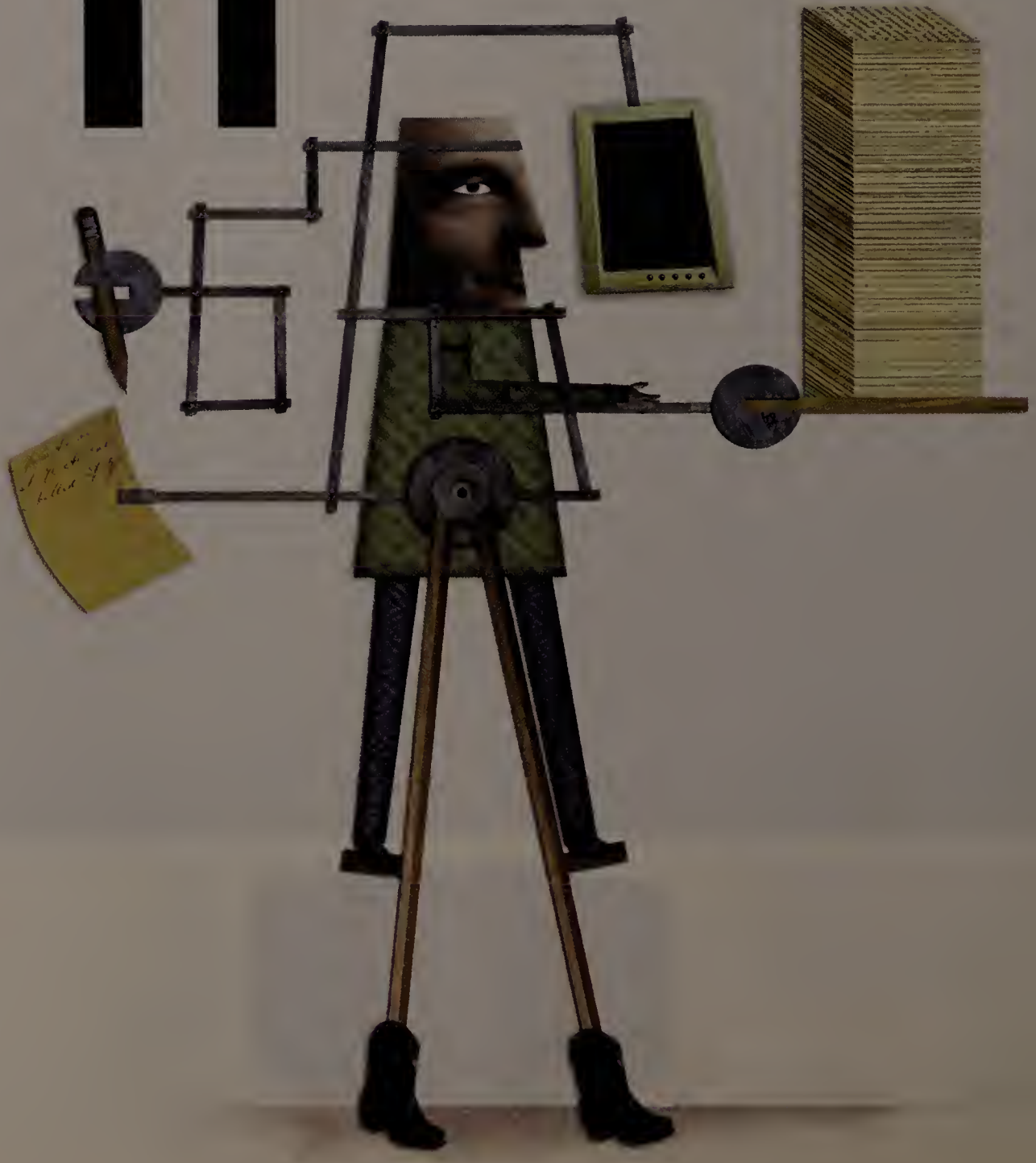

JOYCE HESSELBERTH

Autonomic computing may already be here, but the real payoff is three to 10 years away. **By Matt Hamblen**

The central promise of autonomics is that IT workers won't need to do as many routine chores such as restore failed servers or provision switches and routers. Autonomics can free up IT workers for higher-level tasks and give them more time to spend with business managers to find ways to make systems work for the needs of their companies.

But is there anything new about autonomics? Is it simply old technology incrementally improved and repackaged with a new buzzword? Perhaps. But IT managers keenly understand the new benefits of autonomics, while acknowledging that the concept has a long history.

EMERGING TECHNOLOGIES

"Autonomics is definitely evolutionary, and we don't look at it as a distinct point" when a company suddenly has it, says Ed Toben, CIO at Colgate-Palmolive Co. in New York. His company has widely deployed IBM systems management products, including Tivoli software, to keep its SAP system running on servers and storage gear in 55 countries. "For us, autonomics means that systems can be self-managed, and the more you can do that, the better," says Toben. With steady growth in systems at Colgate-Palmolive, "there's just a constant struggle against expansion and complexity," he explains.

John Freeman, senior process engineer at Bayer HealthCare, a Shawnee, Kan.-based division of Bayer Corp., says the drug maker uses software from Tripwire Inc. in Portland, Ore., to provide control in the manufacturing process. Federal mandates require valid digital records, so automatic monitoring and reporting is critical, he points out.

"We're constantly looking for ways to automate processes, whether it is a machine or an operator process or data collection and generation of reports," says Freeman. "In IT, we're trying to put ourselves out of work."

Eventually, Freeman wants a man-

Behind the Name

Autonomic computing, also called on-demand computing, organic IT and other names, means business policies and service-level agreements "drive dynamic and automatic optimization of the IT infrastructure," according to Gartner Inc. The research firm has dubbed the phenomenon "real-time infrastructure," replacing the term it used two years ago, "policy-based computing services."

"It means," says Amy Wohl, an analyst at Wohl Associates in Narberth, Pa., "allowing the computer to automate and control as much of the routine tasks of the system as are feasible at any moment and allowing them to be managed under policies set by the organization."

The analysts admit their definitions are broad and sound like what systems management vendors and experts have been talking about for 15 years. In fact, some analysts include more than 20 technologies under the general heading of autonomics, including self-healing software and grid computing.

Because of the poor economy and the focus on getting payoff from IT investments, user interest in autonomics is suddenly higher and there have been more announcements of software tools with improved functions, says Gartner analyst Thomas Bittman.

There are other forces driving interest in autonomics. For example, the performance of networking, server and storage hardware is increasing while the costs of those products are going down, Bittman adds. Meanwhile, IT labor costs are still going up and make up the lion's share of an IT budget.

Also, hardware vendors are seeing their profit margins dry up as the cost of servers goes down, and they've been rushing to buy smaller companies or develop autonomic products for future revenues, he says.

– Matt Hamblen

agement system that automatically reports on manufacturing systems and the security of production, so if there's any corruption in an application file, for example, the process can be rolled back to a previous file version automatically while immediately generating a report for inspectors.

Further, Freeman argues that any new autonomic capabilities shouldn't require major changeovers of operating systems or hardware.

Users who are considering autonomics say they want systems that are able to reboot the hardware used by applications that have failed, such as e-mail or database servers. For example, an autonomic process could reboot a server and notify an IT administrator or reroute functions to a backup application on another machine.

"Every time I have to restart my customer database, my customers don't have access," complains Perry Cain, chief technology officer at Suppleye.com, an e-procurement medical products supplier in Fairlawn, Ohio. "I'd like fewer restarts. [But] I'd like to see autonomics in a lot of products."

Vendors are promising many other potential benefits, such as the ability to raise the utilization rates of servers by running multiple applications on a single underused server. Or organizations might be able to marshal clusters of servers to do high-priority work and then automatically jump back to a prior job once the urgent task is done. The process would happen without human intervention, based on policies set by managers, according to Thomas Bittman, an analyst at Gartner Inc. in Stamford, Conn.

When something breaks in systems today, management software typically uses annoying beepers and lights to alert systems administrators, who then run to fix things. With more autonomic tools, Bittman says, processes can be written that will define remedial actions that machines can take, instead of just alerting overworked IT staffers.

With autonomics, says Laura Koetzle, an analyst at Forrester Research Inc. in Cambridge, Mass., server utilization rates could be "massively higher," perhaps rising to an average of 80% from the 20% that's typical today. She also suggests that there will be dramatic increases in labor efficiency, thanks to a reduction in the number of mundane and repetitive tasks and an increase in the speed at which IT problems can be resolved. Tasks that once took months could be completed in days or even hours, she says.

> **"We're constantly looking for ways to automate processes, whether it is a machine or an operator process or data collection and generation of reports. In IT, we're trying to put ourselves out of work."**
>
> **JOHN FREEMAN,** SENIOR PROCESS ENGINEER, BAYER HEALTHCARE

Today, systems monitoring capabilities are widely available, but systems capable of making automated responses based upon business demands are on the way, analysts say. There's an array of vendors lining up to provide new products, with some announcements planned in the fall.

Coming Attractions

Gartner lists 22 technologies related to autonomics that are coming in the next decade. Those that are either available today or expected in less than two years include automatic high-availability/fail-over capability, network load balancing, resource chargeback to user groups, hardware partitioning and in-house massively parallel processing (MPP) grids, which offer the ability to use excess computing capacity on distributed clients or servers for parallel processing workloads in a secure way.

In two to five years, autonomic computing will foster technologies such as self-healing software, IT service provisioning, MPP grids external to organizations, root-cause discovery and correction, and self-healing hardware, Gartner says. Between 2008 and 2013, Gartner predicts major innovations such as general-purpose grid computing as well as service billing, service governing and service policy managing systems that shift IT resources to meet business needs at the lowest cost.

The biggest long-term promise of autonomics is that it will save users money, primarily by taking expensive IT workers off of mundane tasks, says Forrester's Koetzle. But she says she doesn't expect a decrease in IT jobs. Instead, she sees well-trained workers being reallocated to development and planning functions.

Toben at Colgate-Palmolive concurs. "Our IT shop is so busy that the risk of job loss seems remote," he says.

"My concern in 10 years is there won't be enough people with knowledge of the automated process, and that that could lead to downtime," adds Bayer's Freeman.

The biggest cultural challenge with autonomics will be deciding how much control to give over to the computing infrastructure. But Rich Ptak, an analyst at Ptak & Associates Inc. in Amherst, N.H., says he believes vendors will set up autonomic tools to give IT managers a range of authority, from very little to a lot. "A process could be set at a semiautomatic rate at first," he notes.

Autonomic Prep Plan

IT managers and staffers need to:

1. **Evaluate ways to better understand business needs and get ready to meet those needs.**
2. **Set up best practices for service-level management by mapping IT services to their underlying hardware and software components.**
3. **Enable automated server provisioning with standard server images.**
4. **Consolidate servers and storage.**
5. **Restructure the IT organization to consolidate management of computing resources.**
6. **Change chargeback systems so that all distributed systems are used by all users, with IT staff organizing usage. This would change the current predominant practice where certain servers and systems are dedicated for certain workgroups and purposes.**

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VENDOR OFFERINGS

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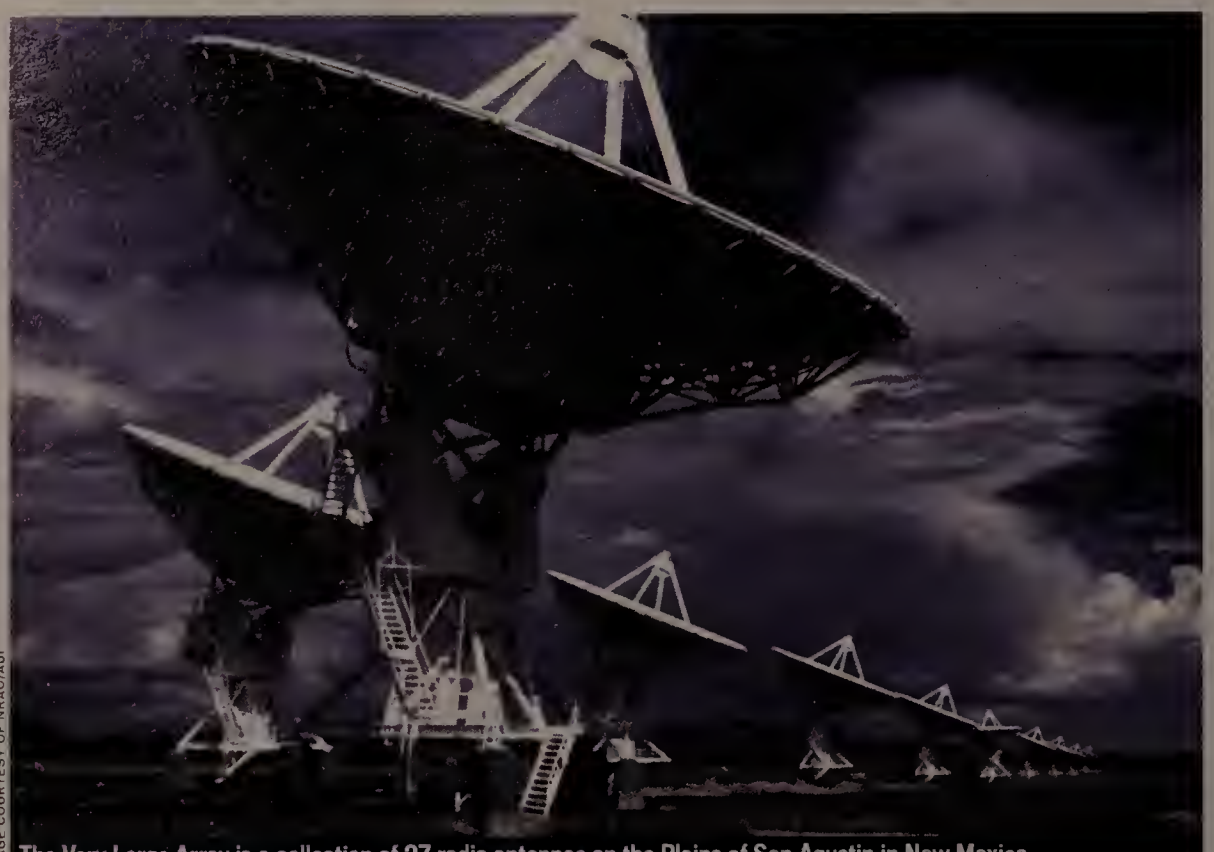

IMAGE COURTESY OF NRAO/AUI

The Very Large Array is a collection of 27 radio antennas on the Plains of San Agustin in New Mexico.

IT Tackles Cosmic Questions

The National Radio Astronomy Observatory uses telecommunications technology to explore the beginnings of the universe.

By Bob Brewin

The National Radio Astronomy Observatory (NRAO) has tapped the enormous data-handling capabilities of off-the-shelf fiber-optic gear to help it peer through the universe and capture signals from the beginning of time. A $150 million upgrade to the NRAO's Very Large Array (VLA) radio telescope in southern New Mexico will be based on the same technology used by telephone networks.

Once the upgrade is complete, the VLA will be called the Expanded VLA, or EVLA. To process the flood of data that will come from the fiber-optic network, the NRAO is developing what EVLA project scientist Richard Perley calls a "godlike" supercomputer, known as a correlator, which will be built using commercial computer chips.

The VLA, located on the Plains of San Agustin 50 miles west of the NRAO's operations center in Socorro, N.M., consists of 27 radio telescope dishes — each measuring 82 ft. in diameter and weighing 230 tons — that scan radio emissions from distant stars and galaxies and can "see" galactic objects undetectable by even the best optical telescopes, according to Perley.

Radio telescopes probe the universe by collecting naturally emitted radio waves from celestial objects, running them through a computer processor and then using the specific radio frequencies emitted by each object to produce an image, according to Dave Finley, a spokesman for the NRAO, which is operated by Washington-based nonprofit Associated Universities Inc. for the National Science Foundation.

When the NRAO built the VLA in the 1970s, it used the best technology available at the time — hollow metal tubes called waveguides — to transmit signals from the antennas to a processor.

But analog technology limited the VLA to sampling no more than 512 spectral channels from atoms and molecules in distant galaxies. The EVLA will be able to sample and process 4 million channels, Perley says.

The ability to tune across a broader frequency range is important, Perley explained, "because the further you go back [in time], you go lower in frequency." The EVLA will be able to detect galactic emissions in a frequency range from 200 MHz to 50 GHz, whereas the current VLA covers only about 25% of that range at any one time.

The VLA consists of three arms, each 13 miles long and containing 24 telescope pads, arranged in a Y-shaped pattern. Every four months, the NRAO shifts the 27 telescope dishes among the 72 telescope pads.

By rearranging the antennas — done with a special rail transporter that moves the massive dishes from pad to pad — the NRAO can change the focus of the array, much like using a zoom lens in a camera, according to Finley.

Each pad requires a network connection — analog waveguide today, fiber-optic tomorrow. To serve the 72 pads, the NRAO has started to install a fiber network that will provide a dozen 10Gbit circuits per antenna, adding up to 3.2Tbit of total network capacity, according to Steve Durand, head of the NRAO's electronics division.

Miles of Fiber

The EVLA will require a fiber network that's 2,759 miles long, roughly the distance from Los Angeles to Washington, said Durand.

Durand says the EVLA fiber network is based on existing wave division multiplexing fiber-optic technologies, so he was able to build the system with standard, off-the-shelf optical multiplexers from companies like JDS Uniphase Corp. in San Jose and Applied Micro Circuits Corp. in San Diego.

"We're going to be on the cutting edge of astronomy by capitalizing on advances in the telecommunications industry," Durand says.

Perley says that the NRAO tapped the National Research Council of Canada's Dominion Radio Astrophysical Observatory (DRAO) in Penticton, British Columbia, to design and build the EVLA correlator. The council also funded the $16 million cost of the correlator, which its designer, DRAO engineer Brent Carlson, calls the largest single-purpose supercomputer in the world.

Steve Ellingson, an astronomy engineer at Ohio State University in Columbus, cautions that the EVLA can't be compared with general-purpose supercomputers that can be programmed to perform multiple tasks. The EVLA correlator is a "quite specialized" digital signal processor, he says, "and it's not fair to compare it to a programmable supercomputer."

The correlator system, which the NRAO will build in Canada and then install at the VLA site in 2007, will include 20,000 commercial field-programmable gate-array chips. It will also include 10,000 custom chips designed by the NRAO, each with 3 million gates, Carlson added.

The correlator will send the EVLA's signals to a Beowulf cluster of 64 PCs for further processing, and that cluster's output will be sent to an image-processing system being developed by the NRAO, with all connections via Gigabit Ethernet, Durand says. Storage will be on a constantly expanding RAID system, with access to the data by astronomers through an Internet-based "virtual" observation system, Carlson says.

EVLA project manager Peter Napier says the new array will "provide us with 10 times the resolution and sensitivity" of the current array. This in turn will allow the NRAO "to see through the dust" of space and eventually help the NRAO "resolve the evolution of the universe," he says.

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Corporate Network Blasted From Abroad

A poorly configured overseas office network allows a worm to slip inside the corporate LAN defenses. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

MY COMPANY has offices all over the world, including a software development center in India. Many of the networks located in such locations are managed independently. I'm not sure why we have continued to let those overseas locations administer their own networks, but the policy has created extra headaches for my team in the past few weeks as we battled Blaster and other worms that exploit vulnerabilities in Windows' remote procedure calls (RPC).

These worms take advantage of a previously discovered vulnerability in the way the Windows operating system handles RPCs, Microsoft's methodology for allowing its operating system to run programs on a remote server.

When a worm finds a server with an open, vulnerable RPC port (typically Port 135), it creates a buffer-overflow condition to force the server to spawn a shell, typically on Port 4444, and download the worm to the server. The worm then starts the process again.

Not only can a vulnerable system be used to propagate the worm, but a malicious user can also take advantage of this buffer-overflow vulnerability to execute arbitrary commands on a vulnerable server.

We first noticed problems when our network operations center (NOC) reported an increase in network utilization within our data center in the U.S. After some investigation, we determined that the source of the problem was TCP/IP traffic with a large range of source and destination IP addresses, all of it destined for Port 135. Our company keeps that port open internally so we can run programs such as Microsoft Exchange, Active Directory and print services.

Externally, however, we block it at our core routers and firewalls. Shortly after the NOC detected the bandwidth problem, we started getting calls from both our Windows NT network administrators and our customers. They reported problems ranging from unauthorized accounts being created to arbitrary reboots, as well as problems when launching Microsoft Word or Excel. The call volume escalated so quickly that our help desk was inundated within an hour.

After some analysis of the Port 135 traffic, we noticed that over 40% of it was coming from the India development site. The rest came from various IP addresses within the company. We also discovered that a Web server had been compromised and that a Web page had been altered at the India site. This was alarming because all authorized Web servers are supposed to reside in our corporate headquarters.

We found that the India site had an entire network that was publicly accessible.

What's worse, the Web server in question was not only running on a publicly accessible IP address, but it also contained links to locations within our corporate intranet.

After more investigating, we found that the India site had an entire network that was publicly accessible and that the routers were configured to route public IP addresses to our internal IT network. This was a major security problem because a compromise of any of those systems could lead to a breach of our internal infrastructure. In addition, the routers were supporting Port 135 and other port numbers that should have been blocked.

We quickly took control of those network resources and had the remote administrators block all unnecessary ports and shut down their Web servers. Then we turned to the task of containing the damage. That wasn't easy because the worm was running rampant throughout the rest of the organization.

Our first action was to prevent it from propagating further. The only way to do this was to install filters to block Port 135 at all of the routers and firewalls connected to the infected networks. This was disruptive because it prevented legitimate business functions, such as printer- and file-sharing, from continuing. We reassured users that the delay would be temporary.

Next, we instructed all administrators and infected users to immediately download the appropriate security update and run the worm-removal tool, which we provided on the corporate intranet. We then asked these parties to ensure that they were running the latest virus signatures and to reboot their machines. After giving everyone time to respond, we configured the routers back to their original state and waited to see if the problem was solved.

It has been a few weeks now. We continue to get sporadic bursts of worm activity, but it's not consuming the same amount of man-hours, and we now have a process to deal with this problem. I anticipate that in another week or so we will finally be rid of this miserable pest.

A Good One Gets Away

Shortly after we got the RPC dilemma behind us, we faced another issue: One of our top security engineers resigned. I had a feeling that this was going to happen. He has always been interested in conducting vulnerability assessments.

In other words, the engineer likes to hack, and he had anticipated that he would be given opportunities to do so. During the hiring process, I told him that I didn't think it would be a problem letting him spend some time conducting assessments and penetration testing of our applications and other infrastructure.

Unfortunately, we have had so many other priorities to address that we just couldn't let him focus on this type of work. The problem with small IT security organizations is that we can't compartmentalize job functions. If I had it my way, I would have someone whose sole job would be to do research. I think the latest rash of RPC problems really put him over the edge, and now we're now down a staffer. So next week, once again, I have to start thinking about how to fill an open position.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum: **QuickLink a1590**

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SECURITY LOG

Aventail Adds Single Sign-on

Aventail Corp. has announced that its Secure Sockets Layer virtual private network (SSL VPN) appliances will integrate with several identity and access management products, including those from Imprivata Inc., Netegrity Inc. and RSA Security Inc. When used with these products, Seattle-based Aventail's SSL VPN appliances will give users access to all IT resources using a single sign-on (SSO). Adding SSO support will reduce password management problems while improving VPN security, the company says. The changes take effect with Version 6.3 of Aventail's software. Customers with previous versions can upgrade for free by visiting the Aventail Web site.

Atrium Ships Antispam Suite

Atrium Software International Inc. in Phoenix has released Camelot Messaging Security Suite 1.0, a spam-filtering tool that uses fuzzy logic, Bayesian algorithms and other techniques to identify and block e-mail spam. The tool intercepts and blocks e-mail before it arrives at the e-mail server. The product, which works with any SMTP-compatible e-mail server, starts at $22 per user for 10 users. A 1,000-user license sells for $2,105.

Security Testing Manual Updated

The Institute for Security and Open Methodologies has announced Release 2.1 of the Open Source Security Testing Methodology Manual. The Barcelona-based organization's manual offers an open-standard method for performing security testing. The latest version includes new laws and best practices, plus a section titled "Rules of Engagement" that addresses ethics and security testing. The free document can be downloaded at *www.osstmm.org*.

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NICHOLAS PETRELEY

Microsoft on Trial

WHAT WOULD HAPPEN, I asked myself last week, if a court opened an inquiry into what was really behind the Blaster-B worm. It doesn't take much imagination to reconstruct the cross-examination of the prime suspect.

Judge: Court is now in session. Microsoft, you are charged with negligence and incompetence. The prosecution will call its first witness.

Prosecution: We call Microsoft to the stand. Do you swear to tell the truth, the whole truth, and nothing but the truth?

Microsoft: I'm sorry, you used a word in there that I don't completely understand. Could you rephrase the question?

NICHOLAS PETRELEY is consultant and author in Kansas City, Mo., and founding editor of VarLinux.org. He can be reached at nicholas@petreley.com.

Prosecution: Never mind. Would you just please state your full name for the benefit of the court?

Microsoft: You can call me Maynard G. Krebs.

Prosecution: Look, Mr. Krebs, er, I mean, Microsoft, I assume you are aware of the so-called Blaster-B worm that exploits a remote procedure call in Windows in order to cripple machines. Can you tell the court what happened?

Microsoft: The RPC gives customers the application compatibility they demand, but the feature wasn't intended for use in a hostile environment like the Internet. We were caught by surprise when we found out Windows XP customers were connecting to the Internet. We have since cautioned customers against doing this. We really can't be responsible if they use our technology recklessly.

Prosecution: Given that you must have known some people would connect Windows XP to the Internet, can you tell me why you made it so easy for a malicious coder to exploit this RPC?

Microsoft: We are committed to the kind of innovation that gives the end user the best possible computing experience. Now, this is an RPC — the operative word being "remote," and we want the RPC to be as easy to locate and use as, say, a television remote.

Prosecution: Are you aware of the fact that infected machines reboot every 10 minutes, which doesn't even give the user time to download the patch that fixes the problem?

Microsoft: This is actually a brilliant part of our innovative embrace-and-extend approach to reducing cost of ownership. IT administrators tell us they need to reboot their Windows machines frequently to keep them operational. So we responded by making it possible for a worm to force the machine to reboot automatically on a regular basis, thus relieving administrators from the costly job of having to reboot the machines manually.

You could say we embraced and extended Blaster-B, which we now call ActiveReboot. The fact that users can't access the patch in 10 minutes is deliberate on our part, since it prevents users from installing a patch that would break ActiveReboot. We always try to stay one step ahead of customer needs and protect them from themselves.

Prosecution: [sarcastically] Have you also embraced and extended the Sobig e-mail Trojan horse?

Microsoft: As a matter of fact, we've taken Sobig and produced two new products from the code. The first, SoFirm, is a privacy-enhancing feature that uses your address book to make outgoing messages appear to others as if they were sent from someone other than yourself.

Our next product, SoFullyPacked, packs your in-box with thousands of copies of the latest version to make it convenient to apply updates whenever they're released. In fact, we use ActiveTrojan technology to make installation and updates so easy that it's almost automatic, which is another way to reduce cost of ownership.

Prosecution: Speaking of cost of ownership, is it true that your own company employs 3,000 administrators for 7,000 servers worldwide? That's one person for every 2.3 servers, isn't it?

Microsoft: Yes, and we're proud of this, since we know that with every server we sell, we're doing our part to reduce unemployment. We like to think of it as "what's good for Microsoft is good for America."

Prosecution: That's admirable, but how can you calculate a low total cost of ownership for Windows with one administrator for every 2.3 servers?

Microsoft: Well, I'm not an accountant, but I think it has something to do with outsourcing. I can call the India office where we did the study and get a copy for you. . . . You look like you are getting a headache, Mr. Prosecutor. Perhaps you'd like to rest your case? ◗

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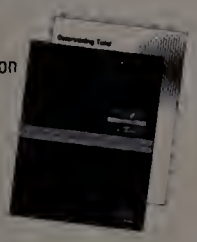

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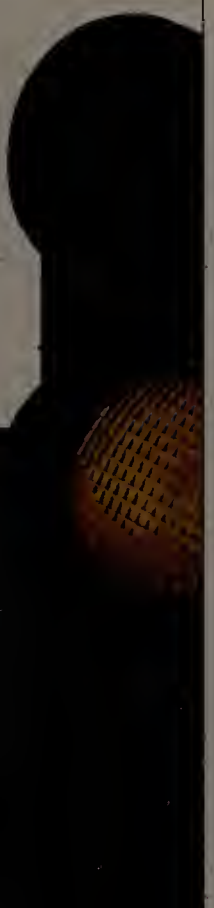

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by Russell Senesac
InfraStruXure Product Manager

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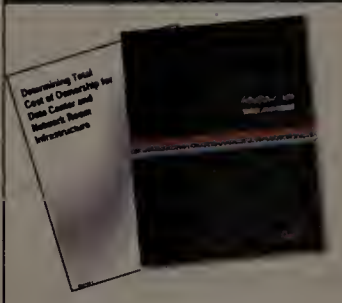

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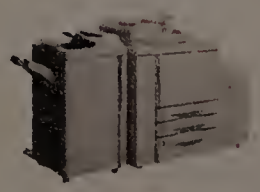

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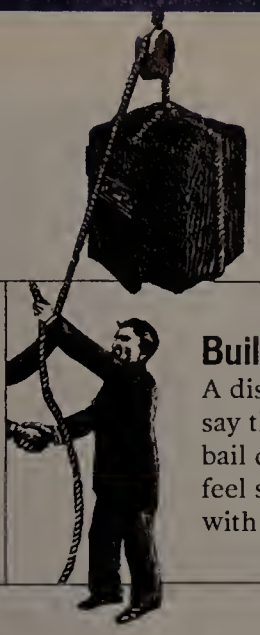
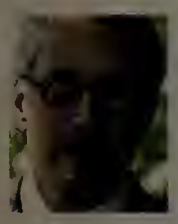




Resilience: Staying on Top
Waiting until the customers start to leave probably means that it's too late for a turnaround, say Gary Hamel (left) and Liisa Valikangas in this month's *Harvard Business Review*. **Page 38**

The Forgotten Side Of Outsourcing
Columnist Bart Perkins says reckless outsourcing can strip your company of talent and sow fear in the remaining staff. **Page 42**

Building E-trust
A dispute mediator and a futurist say the ancient practice of kings' bail could make buyers and sellers feel safer about online transactions with strangers. **Page 40**

ROY LOWRANCE, CTO at Capital One Financial Corp.

KATHERINE LAMBERT

ON-THE-FLY IT

PROGRESSIVE COMPANIES ARE OFFERING IT SUPPORT FOR EMPLOYEES ANYWHERE THEY NEED TO GET WORK DONE, WHETHER THAT'S A 'TELESUITE' OR A COFFEE SHOP. BY JULIA KING

MORE AND MORE AMERICAN WORKERS aren't showing up at the office. Their cubicles are vacant, their desktop PCs idle.

Instead, they're working at all hours of the day from coffee shops, conference rooms, customer sites and suburban telework centers. Take a look around your own corporate offices. There's probably a lot of empty chairs. The average occupancy rate of commercial office space from 8 a.m. to 5 p.m. is between 30% and 50%, according to Cornell University's International Workplace Studies Program.

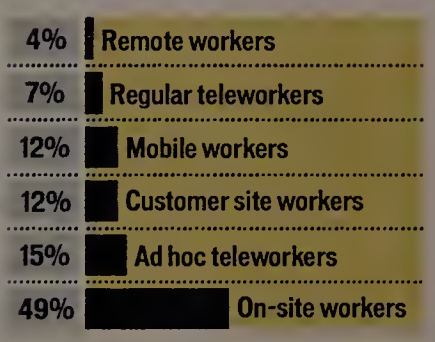
The challenge for IT managers is how to support this ever-growing legion of far-flung workers with all of the tools and information they need to do their jobs, anytime, anywhere. For example, Cincinnati-based Procter & Gamble Co., a pioneer in business- and worker-agility programs, defines the workplace as "anywhere someone is trying to be productive, whether it's a P&G location or not," according to Mary Adam, P&G's director of North American Workplace Services.

Cigna Corp., which has 3,500 full-time teleworkers and 7,000 casual teleworkers enrolled in its eWork program, wants employees to work wherever it's most effective for them to do their jobs, whether it's a spare bedroom or one of Cigna's corporate "touchdown" sites, which the company provides for workers without a designated office.

"A higher proportion of employees is working on the fly, but the IT infrastructure at most companies is still assuming they come into the office every day," says Michael Bell, an analyst at Gartner Inc. What IT needs to create and support is an "agile workplace," which Bell says is "all about choice, flexibility and moving accountability for where and when work gets done out of the traditional office and to the employee."

Where Work Gets Done

Research shows that employees who could be classified as off-site workers work from a variety of places other than home. Here's the breakdown:



BASE: 2,057 adults working at companies with 500 or more employees

SOURCE: AMERICAN BUSINESS COLLABORATION, 2002
(PERCENTAGES ADD UP TO 99% DUE TO ROUNDING)

Besides worker mobility, IT must also consider the changing nature of work. By 2006, people will spend nearly 70% of their time working in teams — but not necessarily face to face, according to an agile-workplace study conducted by MIT and Gartner. That means deploying more collaborative technologies, such as Web-based videoconferencing, that peripatetic workers can easily and cheaply tap into, regardless of their location.

In the current economy, experts say, the main factor driving telework and a more agile workforce is cost pressure. Companies with formal telework programs say they save money on real estate, although some studies indicate that IT costs are higher.

In the first 12 months of its eWork program, which enables more than 10,000 employees to work from anywhere using all of the same IT tools they would have access to at a corporate office, Cigna saved $1,500 per person. In the second 12 months, the Philadelphia-based company saved $3,000 per worker, according to Lynne Kelley-Lewicki, director of Integrated Workscape Strategies.

At AT&T Corp., where 17% of managers have no office but instead work full time from home or a customer location, real estate savings will total $35 million in 2003. Other financial benefits include $100 million in increased worker productivity and

$15 million in gains resulting from improved employee retention and recruitment, according to Joseph Roitz, AT&T's telework director.

Overall, MIT and Gartner researchers estimate that through 2006, agile-workplace strategies will reduce workplace and IT infrastructure costs by 10% to 15%. But for IT, helping to create and support an agile workplace isn't just about setting up workers with laptop computers and at-home broadband network access. It requires a high level of cross-functional collaboration, navigating tricky company politics and fitting new technologies to employees' work patterns. Here are four key tips from companies leading the way on the agility front:

1 Don't go it alone. IT, facilities, corporate real estate and human resources departments must share information and work together to create a seamless workplace experience for employees, regardless of their locations.

In an unusual move, P&G combined its facilities and IT departments, cutting $500 million from its bottom-line operational costs. Among other things, the combined department introduced hoteling and hot-desking, where offices become a shared resource that multiple people can use.

"We view the workplace as an integrated whole, including the chairs, desks, LAN jacks," explains P&G's Adam. "Before, if you were moving offices, you called one department to move your PC, another department to move your phone, and so on."

Now, all workers log onto P&G's Web-based portal, known as Company at Your Fingertips, to schedule office moves, order cell phones, set up an audio- or videoconference, or request a plumber or an electrician to resolve a building problem. "We put all of these things together in the way that a user thinks about them — as tools to get their work done," says Adam.

Capital One Financial Corp. in Falls Church, Va., has transferred some IT professionals into its corporate real estate department as a way to ensure that space and technology needs are considered in an integrated way, says Chief Technology Officer Roy Lowrance. For example, the company has dozens of "telesuites," which are conference rooms outfitted with state-of-the-art Web-based videoconferencing technology to accommodate Capital One's highly collaborative, but highly mobile, corporate culture.

2 Make telework a standard operating procedure. Ad hoc telecommuting and under-the-radar work-from-home arrangements cost more money and cause a lot of headaches for IT. "IT has people coming in on dial-up lines and DSL. They have to prepare for all different security and access issues, and from a help desk standpoint, they're getting a lot of calls from people who are far away and need to be coached through a lot of issues," notes Tim Kane, CEO of Kinetic Workplace Inc., a Pittsburgh-based consulting firm specializing in telework and integration of IT, real estate and human resources concerns. Kane is also president of the International Telework Association and Council.

Kelley-Lewicki says Cigna "made a conscious decision to grow eWork into an embedded service and not make it a program, which is something special or something that you subscribe to." As an embedded service, eWork provides mobile workers with all of the same IT tools they would have if they were working at the insurer's corporate office. These include a standard laptop and broadband network access to all necessary software applications and databases, regardless of whether the employee is at home, a company hoteling facility or a customer site.

As an e-worker's needs change, different suites of software can be automatically downloaded, says John Duffy, a senior vice president at Cigna Systems. "As a guiding principle, you want to try and keep the e-worker process as transparent as possible," he says. "You want to have the look and feel of the desktop the same at the office as at home."

CHANGING THE GAME WITH IT

"If you want agility," advises Capital One CTO Roy Lowrance, "don't start with technology. Start with the company culture, then force technology and the company culture to work in harmony."

That's the way the strategic technology group within Capital One's IT organization assesses the potential of all new technologies.

Lowrance says IT screens new technologies with a constant eye toward how people perform their work, and looks for what he calls "game-changing possibilities."

As part of the screening process, the IT department develops usage scenarios for all new technologies. A recent example is Web conferencing technology from PlaceWare Inc., which earlier this year was acquired by Microsoft Corp. IT considered how meetings are conducted currently and how employees' behavior might change with Web technology that lets participants dynamically share presentations stored on their laptops.

"With PlaceWare, you log onto a Web site, and everyone sees the document or presentation dynamically. It means people don't have to predistribute documents, and you don't have an issue with managing people's attention, which you have when they're at a meeting and paging through paper documents distributed to them before the meeting," Lowrance notes.

IT is developing a similar usage scenario for RDF Site Summary (RSS) technology as a possible e-mail replacement at Capital One. RSS is an XML format that enables users to aggregate information from a variety of sources into a single Web-based application.

"What happens now is a lot of people publish information updates – about projects, meeting agendas, etc. – via e-mail. With RSS, they'd publish updates to a Web site, and there would be a browserlike client to view all of these updates in one place," Lowrance says. Essentially, it would change the way the entire organization communicates.

"We constantly look at technology to make sure it's not just incremental," he adds. "Anything that is not game-changing is not interesting."

– Julia King

3 Study work patterns, then adopt technologies and policies to fit. Before implementing new technologies, IT needs to discern how much mobility workers need in their jobs and whether the bulk of their work is done individually or collaboratively. "If an organization is like Sun Microsystems, where workers can work anytime, anywhere, IT is going to have to put its greatest emphasis on anywhere, anytime connectivity — things like remote servers and virtual private network capability," says Gartner's Bell.

At Capital One, most work is accomplished in teams, with the company's 8,000 knowledge workers spending an average of four to six hours a day in meetings or otherwise out of their individual offices. "Nobody can sit in an office all day and get his or her job done," Lowrance says, noting that the IT at Capital One's new West Creek campus in Goochland County, about 15 miles west of Richmond, Va., reflects that working style. Among other things, it includes wireless LAN access throughout the facility, so employees can tap into e-mail or presentations from anywhere in the building, and dozens of team rooms equipped with Web-based videoconferencing facilities and electronic whiteboards.

"I'm always thinking about how people work, what's inhibiting work and looking for game-changing possibilities," says Lowrance. "If you want agility, don't start with technology. Start with the company culture, then force technology and the company culture to work in harmony," he says.

4 One size doesn't fit all. It does little good to copy exactly another company's best telework practices because each organization has its own set of workstyles and unique culture, experts say. Consequently, each company needs to come up with its own telework strategy. Cigna, for example, provides the same set of tools to all employees, regardless of where they're located.

Meanwhile, after a yearlong telework pilot project, the Treasury Department's Office of the Inspector General for Tax Administration is considering offering workers different levels of telework services. The decision came about after outfitting all teleworkers with a high-end combination fax machine, printer and scanner at their homes and learning that most workers actually use only the printer.

The agency also gave all teleworkers, who are mostly auditors working at various business sites, a standardized laptop computer, but later had to retrofit many of the PCs to accommodate power users who have more demanding computing requirements, says Joseph Hungate, CIO of the office. Regardless of the specific telework strategies companies deploy, experts agree that all IT organizations have to redefine their domains well beyond the walls of the corporate office. "There will be no real decline in this trend," says Bell. "It may be paused now due to the economy, but it will continue, and the pressure will increase when the economy comes back."

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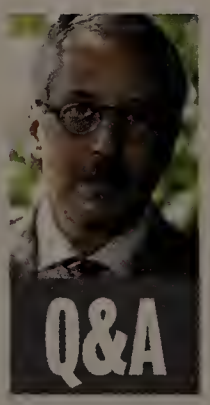
Resilience: Staying On Top

Here's how IT can help your company continuously reinvent itself.



A turnaround, says **GARY HAMEL,** *is transformation tragically delayed. In this month's* Harvard Business Review, *Hamel and co-author Liisa Valikangas argue that in today's turbulent times, turning a company around after the market slips out from under it might be too little, too late. Your company needs to continuously morph to meet new opportunities and challenges, to constantly build the future rather than defend the past. Hamel, director of the Woodside Institute, a nonprofit research organization in Woodside, Calif., that focuses on management innovation, spoke with Kathleen Melymuka about resilience and its implications for IT leaders.*

You say it's getting harder and harder for successful companies to stay successful. Why? However you slice the time scale — 15 billion years or 15 months — you find change is accelerating, and two tech-related things are driving that: raw processing power and our communications capability. That puts enormous strains on institutions, yet somehow they don't seem to be all that resilient.

What is resilience? You can rejigger your supply chain without ever asking fundamental questions about what business you're in. But that's very different from having to deal with a business model that's going toes up. If I'm in the traditional music industry, figuring how to get CDs more efficiently into the aisles of Best Buy isn't going to solve my problems. If I'm Sun, a nimble supply chain won't help me deal with Linux. Most companies have not had to face the challenge of a long-term, irreversible decline in the economic efficiency of their core business model, but more and more are facing that today. Strategic resilience will be the fundamental challenge.

How is strategic resilience different from a turnaround? Typically, the work of renewal only starts once a company is in crisis. IBM goes from making $6 billion to losing $8 billion and realizes it needs to deliver solutions, not just products. But in all turnarounds, there's an enormous amount of wasted energy. You pay a very high price for recognizing the challenge so late. Renewal shouldn't come in a once-a-decade cataclysmic burst. We want it built into the systems. We want it to be continuous, opportunity-driven and intrinsic.

You say that, philosophically, companies are too invested in the goal of optimization. What's wrong with that? Many IT professionals spend most of their energy improving transactional efficiency: the flow of goods through your supply chain, handling customer requests more quickly, figuring out how to do business with less inventory. Basically, it's about better, cheaper, faster, which is fine. But almost all of those huge productivity gains have gone back to the customer in the form of lower prices or better goods and services at the same price. Only about 1% ever makes it to the bottom line. What is missed is the chance to use technology to create new value for customers. Where has your use of IT allowed you to create something so cool that you can raise prices? Deep strategic innovation is the only way you can create new wealth. IT needs to be seen as a positive force for business innovation, not process innovation.

Give me an example. Why is it that when I go to check in at United Air Lines, there's a special line for the best customers, but when I go to the supermarket, there's a special line for the worst customers? Why don't supermarkets have a line for people who spent $5,000 in the store last year? Why don't they deliver superior service and carry out my groceries? IT folks need to look outside their industry and ask where IT has made the biggest difference to the customer experience, what we learn from that example and how I can bring that back to my own context.

How does a company begin? You can't predict what the world will look like in 10 years, so you try a variety of things. Some will work. The crunch comes because in many organizations, it's very hard to move resources from old things to new. All the resources are devoted to perpetuating legacy programs. A young employee has a cool idea for a new merchandising approach. He needs access to technical help, a small amount of money and consulting help. How does he get that money and talent? In most organizations, it's extremely difficult unless there's a 90% chance of success. Ideas go up a chain of command, and rightly so. How do I divert at least a small amount into things that are more experimental and have a chance to create new alternatives — and not just products — new distribution channels, new customers, new pricing strategies?

Has anyone found a way? [As part of a consulting engagement at] Shell, we created a secondary resource process to fund experiments. Anyone with a new idea can go to an eclectic peer review panel made up of contrarian thinkers and say, "I need funding to take this idea to the next step." There's a small, dedicated pool of capital for funding these things, and you're guaranteed to have an answer back in five business days. They have funded dozens of these, and they have delivered economic returns as good or better than anything at Shell.

What role should IT leaders play in building resilience into their companies? The challenge for IT is to use the Internet to build internal markets for ideas, experimental capital and talent to dramatically decrease the time it takes to connect these things. Lots of companies have re-engineered business processes to reduce the time from order to cash flow. But now the challenge is to reduce the time between idea and cash flow. That requires us to re-engineer not business processes but management processes, like capital budgeting and strategic planning. I think IT can play every bit as big a role there as it did in the supply chain. ◗

Melymuka is a Computerworld *contributing writer. You can contact her at kmelymuka@yahoo.com.*

This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.

Spotting Strategic Decay

Leaders often miss the signs when business strategies start to decay, says Gary Hamel. Answering these questions honestly will help you recognize strategic decay in your business while there's still time to do something about it:

- **Does your strategy still defy industry norms and provide competitive advantages and exceptional financial performance?**
- **Are changes in the political, social or business world rendering your strategy less powerful or relevant?**
- **Is the pace of improvement in key performance metrics slowing down?**
- **Is increasing customer power eating up profits?**

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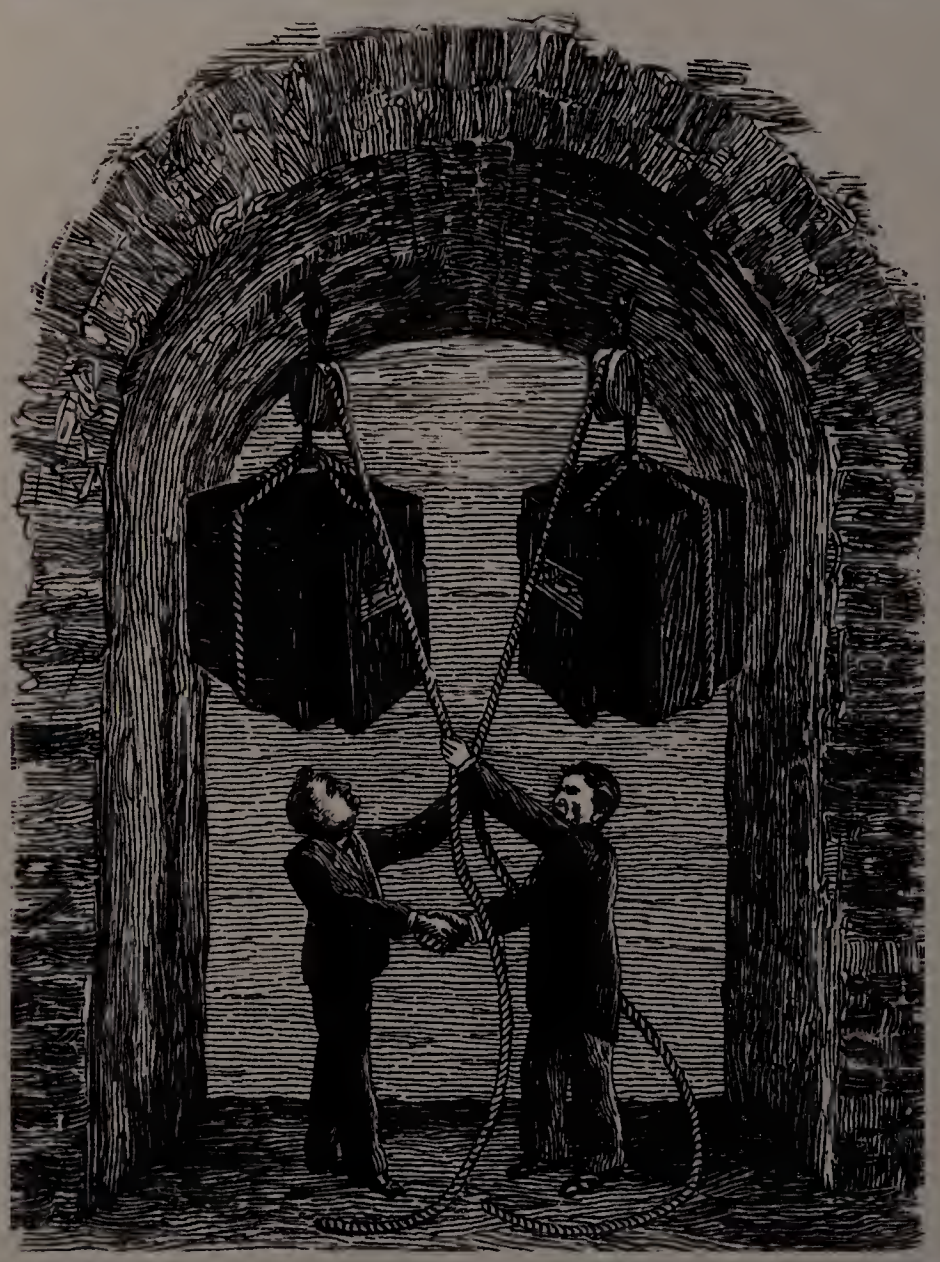

POLLY BECKER

Building E-Trust

Here's a modest proposal for a system that could add more trust to e-commerce.

By Colm Brannigan and Peter de Jager

E-COMMERCE is here to stay. We need only look at the history of Dell Inc., Amazon.com Inc. or eBay Inc. for undeniable proof that it's a growth industry. But could it be better? Has the media coverage of e-commerce flaws as they relate to scams, identity theft, massive violations of privacy and lax security resulted in a fundamental lack of trust in e-commerce?

In a 2002 survey conducted by Yonkers, N.Y.-based Consumers Union of the United States Inc., only 29% of 1,500 U.S. Internet users polled said they trust Web merchants — far fewer than those who trust brick-and-mortar retailers. Society has only begun to explore the real potential of e-commerce. While many people are content to purchase books and CDs from well-known sites such as Amazon.com, they are less likely to delve into online auctions because they don't trust the system, nor do they buy from smaller, less-well-known sites, even when those sites offer a better deal.

E-COMMERCE

E-trust comes in two flavors: trust in the trade and trust in the trader. Increasing trust in the trade requires that we replicate what customers experience when they walk into stores on Main Street. To do that, Web sites need the following features:

■ **Security and privacy.** A customer's credit card information is no more secure on Main Street than on a Web site, but because of various online security breaches, the perception is that the Internet has no regard for privacy or security. We know the solution to this problem. The necessary privacy and security measures are well defined; we just need to implement them.

■ **Ease of access and personalization.** When customers can easily find what they're looking for, they feel welcome and comfortable, and they're more likely to hang around to buy something. Think of user personalization and user friendliness as the Web equivalents of the greeters at Wal-Mart who are there to direct you toward what you need.

■ **Order status.** Main Street has an advantage. When you buy something, you usually take it with you. The entire trade is completed in minutes. E-commerce sites must compensate for delayed delivery with status updates. For example, Canada-based online retailer Chapters.Indigo.ca sends e-mails not only to confirm that an order was placed, but also to inform customers that shipments have left the warehouse. FedEx.com uses the Internet to let customers check the status of shipments at any point in its delivery process. In both cases, e-trust is increased via the flow of trade information.

■ **No charges until shipped.** All e-commerce sites could improve customer service and trust by delaying credit card charges until the order has shipped. These are simple approaches to e-trust, but the real issue isn't the trades that go well, but the trades that go astray. How is the customer treated when a problem occurs?

Maybe we need something like the pizza delivery strategy: Thirty minutes, or it's free! Would consumers embrace e-commerce more strongly if a delay in shipping was compensated by a 5% to 10% reduction in the sale price?

What happens when the goods delivered weren't what was ordered or were damaged in transit, or when an item was back-ordered and never delivered? None of these problems is uncommon. The easier it is for consumers to gain satisfaction from an organization, the higher their level of trust in it. This is as true for e-commerce as it is for Main Street.

Dispute Resolution

Given the nature of the Internet, in particular the distance between buyer and seller, as well as the prohibitive cost of legal action across jurisdictional boundaries, how does your e-commerce site resolve disputes? Does the customer always lose? Or do you provide some form of alternative dispute resolution (ADR)?

The primary reason it's difficult to get people to trust the Internet is because it's, to use a tired cliché, like the Wild West. When things go horribly wrong, consumers are on their own; they have no safety net. They know this. Any site that recognizes this inherent weakness of e-commerce and goes out of its way to provide consumer support via a dispute resolution process by a neutral third party will in-

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*This session is intended for IT vendors; no non-IDC analysts permitted in this special session.

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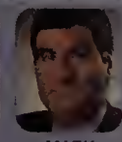

MARK CANEPA
EVP
Network Storage Products Group
Sun Microsystems

JON WILLIAM TOIGO
CEO
Toigo Partners

Agenda Snapshot*

*subject to change

For details, updates, and to register visit **www.snwusa.com/print**

Monday, October 27
(Pre-Conference Activity and Tutorial Sessions)

9:30am-11:30am	Industry Primer, Career Development and Skills Development Tracks
1:00pm-5:30pm	SNIA Tutorial Sessions
1:00pm-6:00pm	Golf Outing at the Ritz Carlton Golf Course
7:00pm-9:00pm	Welcoming Reception

Tuesday, October 28
(General Conference - Day One)

7:15am-8:15am	Continental Breakfast
8:15am-9:15am	Opening Remarks and Visionary Presentation
9:15am-12:15pm	General Sessions
12:15pm-1:30pm	Networking Luncheon
1:30pm-3:50pm	General Sessions
4:00pm-5:30pm	Technical, Technical/Business and Business Tracks
5:30pm-8:30pm	Expo and Buffet Dinner, Interoperability and Solutions Demo

Wednesday, October 29
(General Conference - Day Two)

7:30am-10:30am	IDC Breakfast Briefing
8:15pm-Noon	General Sessions
Noon-1:30pm	Expo and Buffet Lunch
Noon-7:15pm	Interoperability & Solutions Demo
1:35pm-3:35pm	General Sessions
3:45pm-5:15pm	Technical, Technical/Business, Business and SNIA Tracks
5:15pm-7:15pm	Expo
7:30pm-9:00pm	Gala Evening

Thursday, April 17
(Tutorial and Breakout Sessions)

7:30am-8:30am	Continental Breakfast
8:30am-11:45am	Technical, Technical/Business, Business and SNIA Tracks
11:45am	Conference Concludes

Register Today!

Options for IT End-Users*	Earlybird Registration (through September 12)	On-Site Registration (after September 12)
General Conference Package (Oct. 28, 29): (Includes General Conference sessions, Expo, Meals and Receptions)	$895	$1,295
Total 4-day Package (Oct. 27, 28, 29, 30): (Includes General Conference Package; Technical and Business Tracks; SNIA-produced Tutorials; Pre-certification Refresher Courses)	$1,290	$1,690
Options for IT Vendors**		
Total 4-day Package (Oct. 27, 28, 29, 30): (Available to Sponsoring Vendors and their Resellers/Integrators; Industry Consultants; and Storage Solutions Implementors)	$1,290	$1,690
Non-Sponsoring/Exhibiting Vendor Package:	$5,000	$5,000

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nanette_jurgelewicz@ computerworld.com

Awards Ceremony: Wednesday, October 29, 3:05pm, SNW Main Stage

Pre-Conference Golf Outing

Sponsored by: Quantum

Complimentary for Registered IT Users

The Pre-Conference Golf Outing at The Ritz-Carlton Golf Club located adjacent to the JW Marriott Grande Lakes Resort, is complimentary ($165 value) for registered IT End-Users (other participants, including sponsors and vendors, may play on an "as available" basis and are responsible for all applicable golf outing expenses).

For details: contact Chris Leger at 1-508-820-8277

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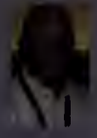

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Registration Information: (This section must be completed in order to process your application)

First Name:_____ Middle Initial:_____ Last Name:_____

Title:_____ Company:_____

Street Address:_____ Suite, Apt., etc.:_____

City:_____ State/Prov:_____ Zip/Postal Code:_____

Country:_____ Phone Number:_____ Extension:_____

Fax Number:_____ E-Mail Address:_____

Badge Name:_____ ❑ Special Services Required? (Please attach written description)

Would you like to receive information about playing in the golf outing on Monday, October 27th (PM)? ❑ Yes ❑ No

Please indicate your preferred conference shirt size: ❑ S ❑ M ❑ L ❑ XL ❑ XXL ❑ XXXL

Attendee Profile: (This section must be completed in order to process your application)

SECTION A - FOR IT END-USERS ONLY

Your Business/Industry:
- ❑ Transportation/Utilities
- ❑ Mining/Oil/Gas
- ❑ Media/Publishing
- ❑ Banking/Finance/Insurance
- ❑ Telecommunications
- ❑ Wholesale/Retail (Non-IT)
- ❑ Advertising/Marketing/Public Relations
- ❑ Education
- ❑ Government/Military
- ❑ Healthcare
- ❑ Manufacturing (Non-IT)
- ❑ Other

Your Job Title/Function:
- ❑ CEO/COO/Chairman/President
- ❑ CIO/CTO
- ❑ VP/GM/Director
- ❑ IS/IT Director/Manager
- ❑ Other IS/IT Department Manager/Supervisor
- ❑ Other Corporate/Business Manager
- ❑ Corporate/Business Staff
- ❑ Consultant (Internal) or Other

Select item below that most closely matches your involvement in IT decisions:
- ❑ Specify features/Technical requirements
- ❑ Evaluate/Recommend Products, Brands, Vendors
- ❑ Create strategy/Determine the need to purchase
- ❑ Set budget for expenditure
- ❑ Authorize/Approve purchase
- ❑ None of the above

Employees in your entire Company:
- ❑ 10,000+
- ❑ 5,000 - 9,999
- ❑ 1,000 - 4,999
- ❑ 500 - 999
- ❑ 100 - 499
- ❑ Less than 100

Estimated annual revenue of your entire company:
- ❑ $10 Billion+
- ❑ $5 Billion - $9.9 Billion
- ❑ $1 Billion - $4.9 Billion
- ❑ $500 Million - $999 Million
- ❑ $100 Million - $499 Million
- ❑ $50 Million - $99 Million
- ❑ Less than $50 Million

Annual company IT budget (All IT products and services):
- ❑ $100 Million+
- ❑ $50 Million - $99.9 Million
- ❑ $20 Million - $49.9 Million
- ❑ $10 Million - $19.9 Million
- ❑ $5 Million - $9.9 Million
- ❑ $1 Million - $4.9 Million
- ❑ $500,000 - $999,999
- ❑ Less than $500,000

Annual company IT budget (Storage products and services):
- ❑ $100 Million+
- ❑ $50 Million - $99.9 Million
- ❑ $20 Million - $49.9 Million
- ❑ $10 Million - $19.9 Million
- ❑ $5 Million - $9.9 Million
- ❑ $1 Million - $4.9 Million
- ❑ $500,000 - $999,999
- ❑ Less than $500,000

Your personal IT spending authority (All IT products and services):
- ❑ $100 Million+
- ❑ $50 Million - $99.9 Million
- ❑ $20 Million - $49.9 Million
- ❑ $10 Million - $19.9 Million
- ❑ $5 Million - $9.9 Million
- ❑ $1 Million - $4.9 Million
- ❑ $500,000 - $999,999
- ❑ Less than $500,000

Your personal IT spending authority (Storage products and services):
- ❑ $100 Million+
- ❑ $50 Million - $99.9 Million
- ❑ $20 Million - $49.9 Million
- ❑ $10 Million - $19.9 Million
- ❑ $5 Million - $9.9 Million
- ❑ $1 Million - $4.9 Million
- ❑ $500,000 - $999,999
- ❑ Less than $500,000

SECTION B - FOR IT VENDORS ONLY

Your Business/Industry:
- ❑ VAR/VAO/ASP/System Integrator
- ❑ Industry Consultant/Storage Solution Integrator
- ❑ Manufacturing (IT)
- ❑ Computer Retailer/Dealer/Wholesaler
- ❑ Software Development (Storage)
- ❑ Other Computer Related (Non-Storage)

Your Job Title/Function:
- ❑ CEO/COO/Chairman/President
- ❑ CFO/Controller/Treasurer
- ❑ VP/GM/Director
- ❑ Sales/Marketing/Product Staff
- ❑ CIO/CTO/Other IS/IT Manager
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- ❑ Press

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❑ Check Enclosed (checks must be received by 10/17/03)
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❑ American Express ❑ VISA ❑ MasterCard

Account Number:_____

Expiration Date:_____

Card Holder Name:_____

Signature of Card Holder:_____

Cancellation Policy (All of the below options require written notification.)
In the event of cancellation, the registrant has three options:
1) He or she may substitute another attendee for this conference.
2) He or she may transfer this registration to the Spring 2004 Storage Networking World® conference, if written notice is received by October 6, 2003.
3) The registration fee will be refunded, less $250 service charge, if written notice is received by October 6, 2003.

Computerworld reserves the right to limit and/or refuse any registration for any reason.

Schedule of Conference Events (subject to change)

Monday, October 27, 2003
- Industry Primer
- SNIA Produced Tutorial Sessions
- Pre-Conference Golf Outing
- Welcome Reception

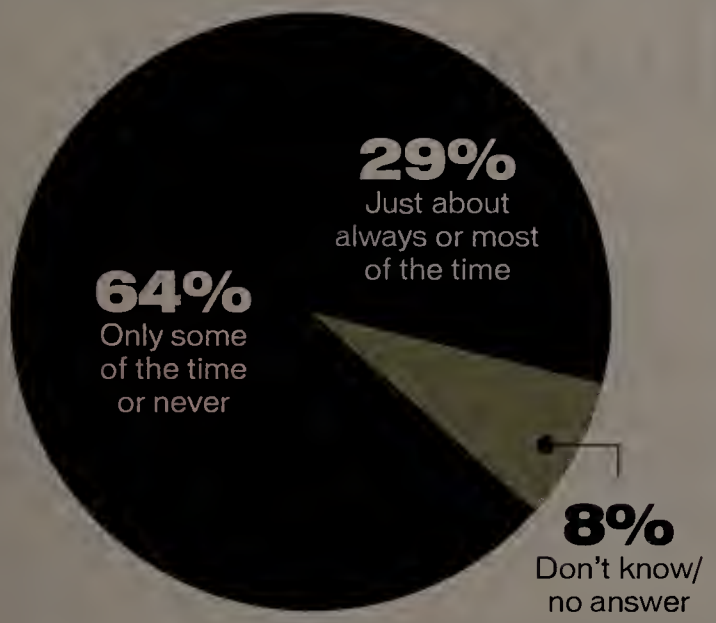
Tuesday, October 28, 2003
- General Conference & User Case Studies
- Interoperability and Solutions Demo
- Exposition
- Pre-certification Refreshers

Wednesday, October 29, 2003
- General Conference & User Case Studies
- Interoperability and Solutions Demo
- Exposition
- Pre-certification Refreshers
- Gala Evening

Thursday, October 30, 2003
- Tutorial Sessions
- Pre-certification Refreshers

The **Credibility** Gap

How often do you trust e-commerce Web sites?



Base: Consumer WebWatch telephone survey of 1,500 U.S. Internet users, 18 years or older. Percentages don't total 100% because of rounding.

SOURCE: CONSUMERS UNION, YONKERS, N.Y., APRIL 2002

Applying **'Kings' Bail'** to B2B

Kings' bail can secure any transaction, including business-to-business e-commerce. The central idea is to construct a purely financial exchange that's worth more than the final exchange of goods and that will be completed if either party fails to comply with the original deal.

For example, if a seller is exporting $500,000 worth of goods to a buyer it has never done business with, then both parties will deposit $1 million into a neutral kings' bail account. When this mutual deposit is 100% confirmed, it's safe for the seller to ship the pig iron, truck parts, chemicals or pork bellies.

The seller knows that its trading partner will pay for the $500,000 shipment, because if it doesn't, the buyer will lose its $1 million. For the same reason, the buyer knows the seller will ship the goods.

Kings' bail doesn't really create trust; it merely holds people to their word, which in e-commerce is a good enough substitute.

– Colm Brannigan and Peter de Jager

B2B BEST PRACTICES

Companies describe their current techniques for building trust in B2B e-commerce:

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evitably build consumer confidence.

Of course, there's another way to increase trust in your e-commerce activities — become a brand recognizable by everyone. That leads us to the real problem of e-trust: How can we trust those we don't know? How can we protect ourselves from a trader with no desire to trade fairly, or convince a potential customer that we're not a scam artist?

Escrow and Honesty

Escrow is a partial solution. In escrow, a neutral third party holds funds until the goods are received and verified. Then the buyer authorizes the payment. Escrow arrangements, such as those made through Escrow.com, are fairly effective, take relatively little time to implement and may cost 0.85% to 6% of the value of the transaction.

As with all third-party services, there are minimum costs. Escrow.com charges at least $15 per transaction. Therefore, transactions of $100 or less suffer at least a 15% surcharge. This is enough to preclude many casual traders from taking advantage of the added security.

The real problem with escrow is that it can provide only an asymmetrical assurance of honesty. Obviously, no seller with the intent to defraud a buyer will enter into an escrow agreement. Do dishonest buyers avoid escrow?

Consider the following situation: If a company wished to guarantee 100% e-trust in all transactions, it could attach escrow to every sale, allowing customers to pay only if they're satisfied. Internet sales would skyrocket.

However, buyers might take advantage of the asymmetry of escrow. It's all too easy to accept a shipment, even sign for it, and then claim it wasn't received and withhold payment. The seller, even though it has signed receipt of goods, must now take expensive legal action to force payment. Any bets on how many times this might happen?

Escrow fails because it compels the seller and not the buyer to trade fairly. We require a tactic that forces both parties into honesty.

Kings' Bail

Such an arrangement has existed for thousands of years, dating from the days when kings would voluntarily exchange hostages to enforce a deal. We call it "kings' bail."

We typically think of a hostage as someone who is taken by force and held until a ransom is paid. Sometimes the ransom is financial, or it may be a demand that another, usually more powerful, party take a specific action, such as releasing prisoners or removing troops from a disputed territory.

However, kings would also voluntarily exchange hostages, usually sons and daughters, in order to force future compliance of a contract or treaty. Since both parties had placed something of great value at risk, both were motivated to honor the agreement.

Casual traders on the Internet could easily enter into such an arrangement. Consider a buyer and a seller wishing to enforce complete honesty in the purchase of a toner cartridge worth $50. Both parties deposit $500 into a computer-controlled, neutral kings' bail account. The "hostage" is worth more than the trade. The seller now sends the cartridge; the buyer sends the check.

If either party fails to receive what it expected, it can instruct the kings' bail service to send both $500 hostages to a randomly chosen charity. (And neither party will receive the charitable receipt for this forced donation.) If both parties are sufficiently satisfied with the transaction, they instruct the kings' bail service to return the hostages.

The advantage of kings' bail over the traditional escrow service is that because financial hostages are taken from both sides, neither party can cheat.

Why would anyone in his right mind, especially the buyer, enter into such an arrangement? For the same reason kings were willing to place their children into hostage situations: They wanted to create an honest contract. The exchange of hostages provided a fully symmetrical assurance of future compliance.

Another fair question is, Why would anyone voluntarily accept an additional $500 loss? The honest answer is that no one would, but it's the threat that someone can do this that keeps everyone honest. Kings' bail places both buyer and seller in a situation where it's in their best interests to successfully complete the transaction.

E-commerce involves trading among geographically distant partners, usually well beyond the reach of the legal system. As such, it poses a unique challenge if the objective is to trade without risk of loss. Instilling e-trust by doing little things, like building user-friendly, secure, private, interactive and pleasant sites, is a good first step. But there's a pressing need to strike at the heart of the e-trust issue. We're dealing with strangers. We must find innovative ways to force them to trade honestly.

Brannigan, an ADR mediator, can be reached at colm@mediate.ca. De Jager, a futurist and speaker, can be contacted at pdejager@technobility.com.

BRIEFS

Fuld Offers Free Search Tools

Fuld & Co., a Cambridge, Mass.-based research and consulting firm, has introduced the Fuld Intelligence Toolbar (*www.fuld.com/toolbar*), which provides targeted links and sites through its Internet Intelligence Index to dozens of business, industry and international resources. Anyone can use the free tool to find competitor intelligence sites, links to experts and initial public offerings, and annual reports from public companies.

HIPAA Compliance Slow in Coming

Health care organizations are under the gun to meet the Health Insurance Portability and Accountability Act's Oct. 16 deadline for Transactions and Code Sets (TCS) standards, which are standards for electronically transmitting health insurance claims. According to the summer 2003 quarterly survey conducted by the Healthcare Information and Management Systems Society and Phoenix Health Systems, executive support for meeting compliance remains strong. However, all sectors are less optimistic about being able to accept and transmit *all* transactions by Oct. 16 than they had indicated in the spring survey:

	SUMMER	SPRING
Payers	62%	79%
Vendors	46%	68%
Clearinghouses	63%	86%

BASE: 571 RESPONDENTS

Here are some other key points from the summer survey:

- Respondents ranked "not enough time" as the top reason for not meeting the TCS deadline.
- Fewer than half of payers and providers have completed the required external TCS testing with trading partners.
- Respondents said lack of cooperation and communication among health care companies remains an obstacle to meeting the October deadline.

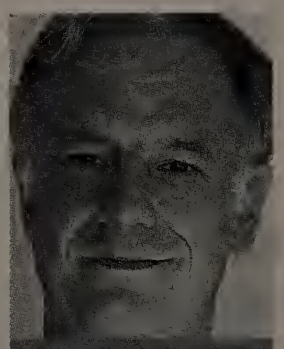
BART PERKINS

The Forgotten Side Of Outsourcing

IF ONSHORE AND OFFSHORE OUTSOURCING is the new wonder drug, "human factors" should be listed as both a benefit and a side effect. Human factors are one of the most important parts of any outsourcing effort, particularly when the outsourcer is located offshore. To proceed successfully, you should carefully consider the people issues from both sides: benefits and drawbacks.

Benefits

Outsourcing can supply your organization with highly specialized skills on a part-time basis. Most CIOs find it difficult to justify filling precious openings with staffers whose technical skills are required only intermittently.



BART PERKINS is managing partner at Leverage Partners Inc. in Louisville, Ky., which helps CIOs manage their IT suppliers. He was CIO at Tricon Global Restaurants Inc. and Dole Food Co. Contact him at BartParkins@LeveragePartners.com.

Since IT is the outsourcer's primary focus, any staffers transferred to the outsourcer will have expanded career opportunities — to develop highly specialized skills and broaden their experience across multiple industries.

Outsourcing also provides an opportunity to transfer some administrative costs and headaches to your outsourcer. You won't have to waste precious months "managing out" nonperforming staffers. And with fewer people to manage after outsourcing, your organization will require less time for human resources management and administration.

Side Effects

You can overoutsource and lose your delivery skills. Reckless outsourcing can strip your organization of the skills required to be effective. If you outsource everything, you'll also strip your organization of its ability to use leverage on and control the outsourcer.

The outsourcer's culture may not fit yours. One outsourcer introduced a group of hard-driving Northeasterners into a conflict-avoiding, consensus-oriented Midwestern company. Misunderstandings and hurt feelings were rampant, until the outsourcer's staffers were coached to soften their approach.

Outsourcing can cause fear and dysfunctional behavior in your remaining staff. Other departments may see IT being outsourced and worry that they may be next. (One textile firm, after outsourcing its IT department, found its fashion designers discussing the merits of moving to New York to avoid being outsourced.)

Outsourcing creates a legal morass of employment regulations and layoff notifications, as well as compensation and benefits-continuation issues. In order to avoid nasty litigation, get competent legal counsel from the start.

Misunderstandings about outsourcing can generate bad publicity. One company's outsourcing plans were leaked to a state senator, who was told that the company was bringing in illegal aliens under false visas to replace U.S. citizens. The senator was prepared to take the issue to the statehouse, until the company cleared up the misunderstanding.

Before you outsource, put a comprehensive plan in place to deal with human factors. This is even more essential if you're going offshore.

- Keep critical skills on your staff, such as architects, planners and program/project managers. Don't outsource your team's ability to be successful. In addition, for offshore development projects, make sure that about 30% of the staff will be located onshore.
- Include human resources, legal and public relations departments from the beginning. Legal will help you navigate the complexities of federal, state and local employment laws. Human resources can reassure your staff, and public relations will deal with major internal critics and the community.
- Interview the outsourcer's staff thoroughly when selecting who will be assigned to your account. Make sure they fit your culture, in addition to having the right expertise. Require the outsourcer to designate a backup for key people, in the event of turnover.
- Create a joint program team with your outsourcer. Treat all team members equally in terms of accountability, supervision and deliverables — whether they're on your staff or on the outsourcer's. Rotate remote staffers through your facility so they become recognized team members, not just faceless voices on the telephone. The most successful outsourcing engagements involve long-term partnerships in which everyone is committed to program success. Offer incentives to promote cooperation.
- Take extra care of remaining staffers. Describe career opportunities explicitly. Give as much interesting work, recognition and other perks as possible. Offer retraining when job responsibilities change significantly. Keep your ear to the ground for rumors, and squelch them before they create unnecessary apprehension.

Most articles on outsourcing emphasize how much money you can save. But don't neglect the human factors. They may not visibly affect your return on investment, but they'll definitely affect your outsourcing program.

Whether you insource, outsource or go offshore, people are still your company's most important asset. And regardless of their location, they'll ultimately determine your success.

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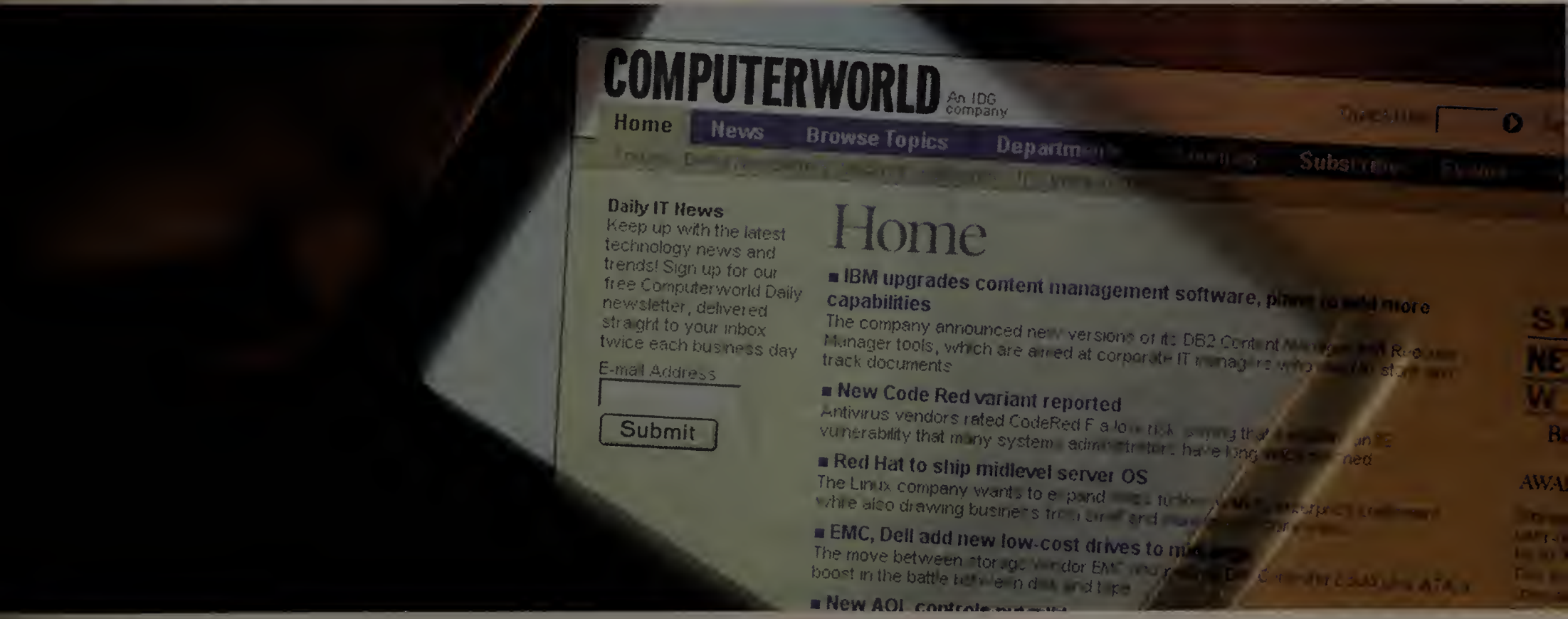

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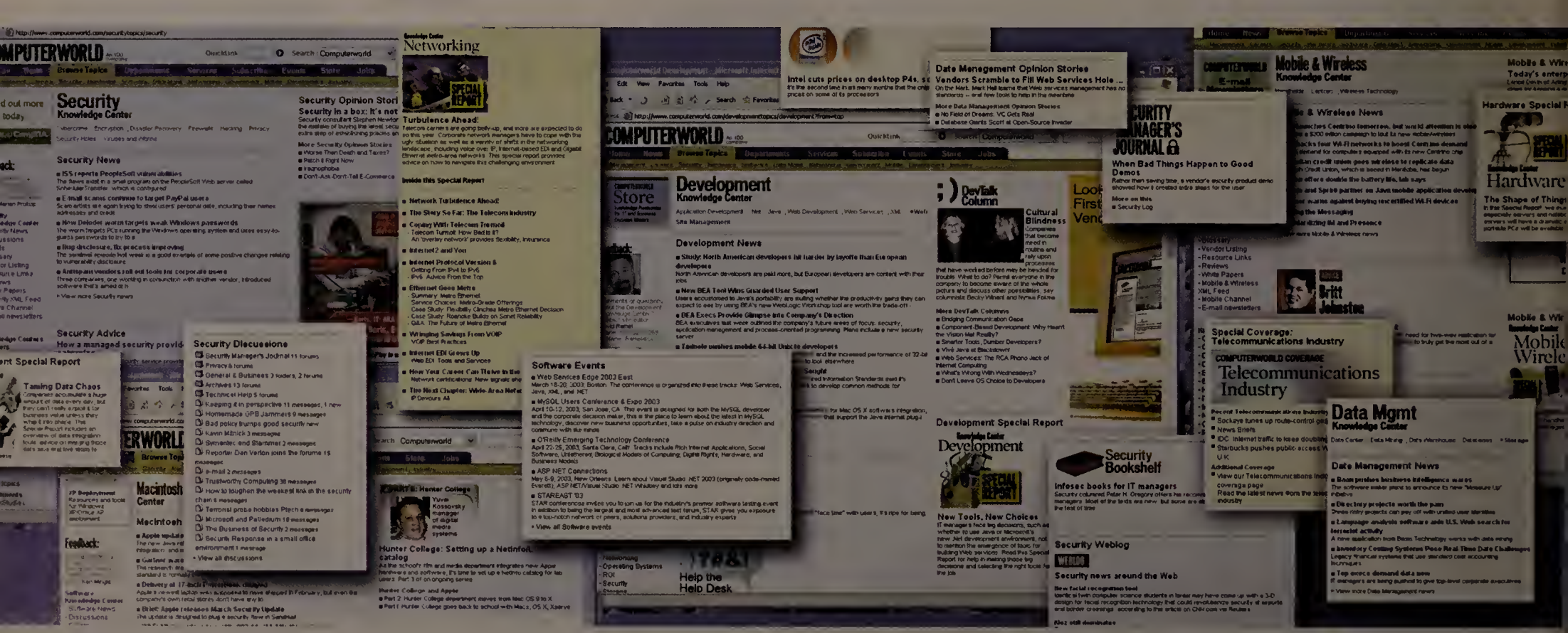

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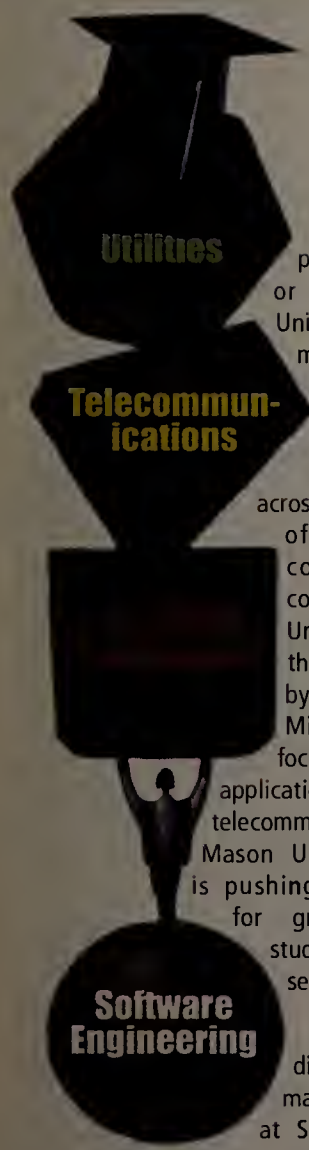

Whether enrolling this fall in degree or certificate programs at Carnegie Mellon or at Southeast Missouri State University, IT professionals will have more diversity in course work and in specialization than ever before.

Most every regional university across the nation offers some type of information technology or computer science degree or concentration. For students at the University of Alabama-Huntsville, the focus is on small classes taught by tenured faculty. At Southeast Missouri State, students are able to focus on computing for industrial applications but also for specializations in telecommunications and utilities. George Mason University in Washington, D.C. is pushing to meet the requirements for graduate and undergraduate students working in the defense and security arenas.

According to Dr. Peter Raad, director of the Hart eCenter and managing director of The Guildhall at Southern Methodist University, academia tends to respond to educational needs rather than lead. The establishment of SMU's digital gaming certification program breaks that mold. "We believe that the technologies of digital game development are the fundamentals of the first new academic discipline of the 21st century," says Raad. "To some extent it's about jobs – there are very good jobs (projected at 5,000 a year) waiting for people with the education that The Guildhall provides."

For the highly rated programs, such as U.S. News & World Report's #1 undergraduate program at Rose-Hulman Institute of Technology (2004), there have been more significant changes designed to meet today's business requirements but also to preserve the United States' leadership in computing and software. Cary Laxer, professor and head of the computer science and software engineering degree programs, explains that by adding the software engineering degree program this year, Rose-Hulman is able to return the computer science degree to a more theoretical emphasis. This kind of approach, he believes, is critical for the United States to remain at the forefront of discovery and innovation in computing.

"The software engineering degree is something companies are looking for," Laxer says. "Nearly every engineering discipline involves writing code these days, but software engineering is for those individuals who will be writing hundreds of thousands of lines of code for a project."

Another distinction for Rose-Hulman is that the school recruits for a freshman class – not for specific majors or disciplines. It's the same approach as is used for another U.S. News & World Report ranking school, Harvey Mudd College in Los Angeles. "We find that 30 to 40% of the freshmen will change their majors while they're here, so we are selling all of our programs," Laxer says.

The school's reputation is based on more than the technical side, too. Laxer reports that the largest department at Rose-Hulman is humanities; students are required to take three years of humanities credits just as they were 25 years ago. "Probably one of the biggest changes we've found for students in looking for jobs is that companies have more distinct personalities – that fit between company and student is more important than ever."

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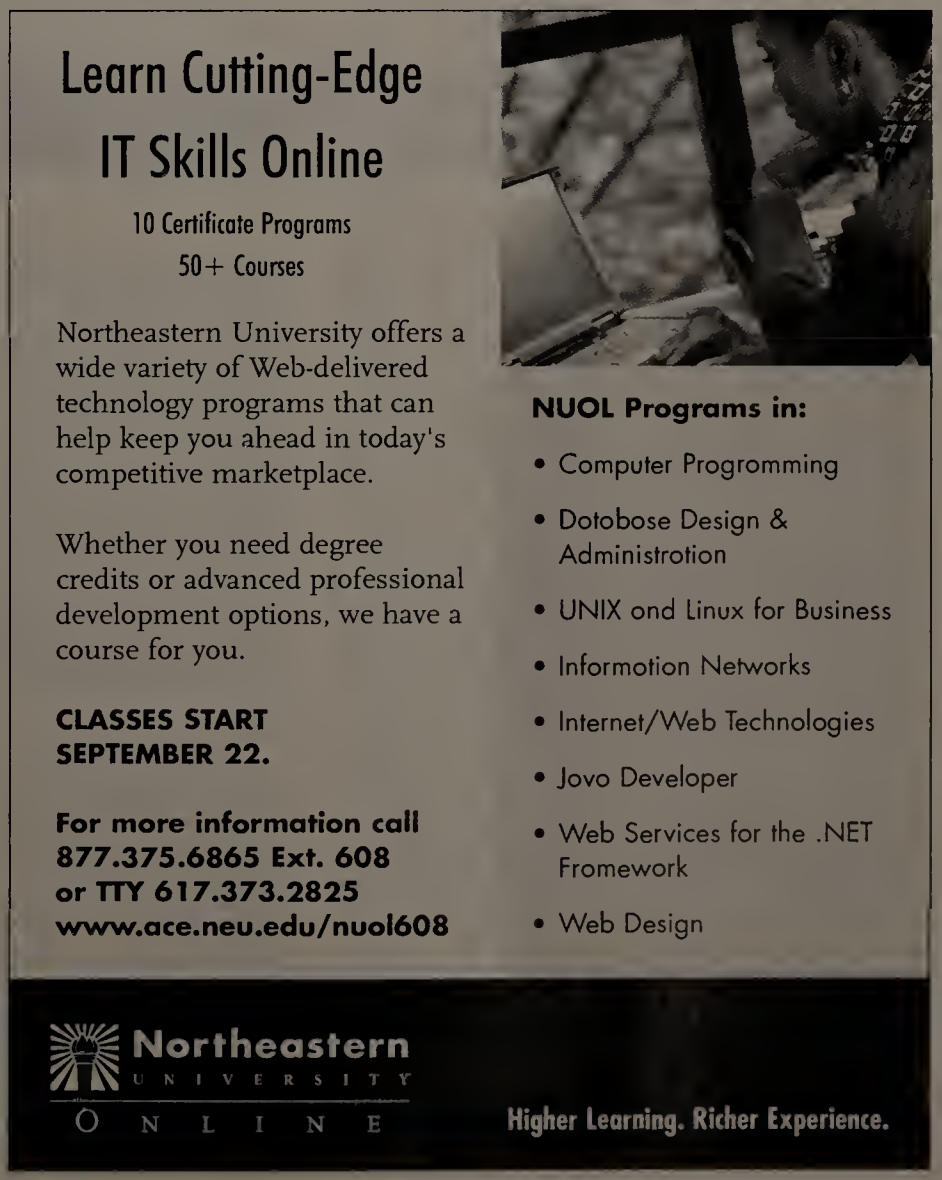

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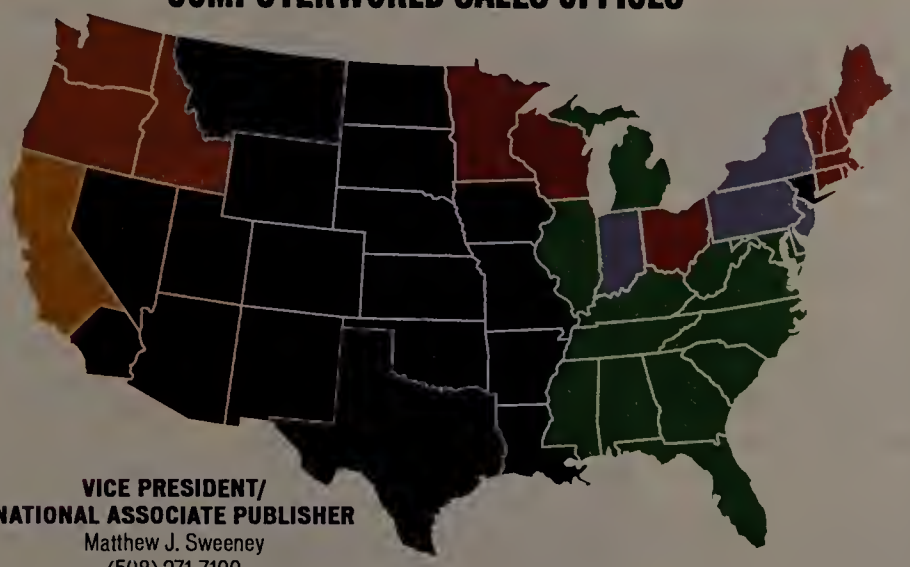

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Blackout

Forces have been working with the U.S. Department of Homeland Security and the private sector since the blackout to search system logs of critical utility control computers for evidence of intentional insider abuse or outside intrusions.

"All eight FBI field offices that were affected and all of the Joint Terrorism Task Forces were convened immediately on Aug. 14 to investigate the potential for terrorist involvement in the blackout," said Larry Mefford, executive assistant director for counterterrorism at the FBI, speaking Sept. 4 at a hearing of the House Select Committee on Homeland Security.

"Our JTTFs are looking at the issue from various perspectives. One is the external threat to see if we have signs of actual sabotage. We have not yet found any evidence of that," said Mefford.

"In addition, we're very concerned about the insider threat, somebody who would have access to critical systems from a physical standpoint, a sabotage standpoint and a computer intrusion standpoint," Mefford added. "We have not yet seen evidence of that, but this is [a] preliminary assessment. We are reviewing the computer logs for evidence of that type of activity."

Congress has also turned up the heat on both the government and the private sector to deliver answers on whether a cybersecurity failure in one or more systems could have contributed to the blackout, especially since the power failure occurred at the height of the Blaster worm outbreak.

Government and industry experts speaking unofficially with *Computerworld* have linked Blaster to the severity of the blackout, since on the day of the blackout Blaster affected the communications networks used to manage the power grid [QuickLink 40999]. But the degree to which the hampered flow of data over those networks might have contributed to the blackout is still unclear.

According to a transcript released by the House Energy and Commerce Committee that detailed telephone calls made between FirstEnergy Corp. and the Midwest regional power grid operator just hours before the blackout, a control room operator at FirstEnergy complained that the Akron, Ohio-based company had "no clue" what was happening because of unspecified computer problems.

"Our computer is giving us fits," the operator said. "We don't even know the status of some of the stuff around us."

Responding to accusations that his company may have triggered the cascading failure, H. Peter Burg, chairman and CEO of FirstEnergy, said at a Sept. 4 hearing of the House Energy and Commerce Committee that events on FirstEnergy's system "in and of themselves could not account for the widespread nature of the outage."

What Must Be Reported

- Security breaches affecting computer systems, networks, communications or data storage systems
- Planting or prepositioning of malicious code/exploit tools (including viruses)
- Any outside or unauthorized inside attempts to extract sensitive or proprietary information from employees that could aid in planning or executing a cyber or physical attack

SOURCES: NATIONAL INFRASTRUCTURE PROTECTION CENTER, NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

But Burg did say that FirstEnergy experienced problems with its Energy Management System on Aug. 14. That system includes file servers, process-control servers and workstations that capture data from supervisory control and data acquisition systems, which are widely used to manage large industrial operations.

"We are still evaluating the functionality of that system that was available to our dispatchers during this time frame," Burg said.

Computerworld requested an interview with FirstEnergy CIO Ali Jamshidi to explain what types of problems the company's computer systems were experiencing Aug. 14. However, a company spokesperson said FirstEnergy wouldn't make any IT personnel available for interviews until the investigation into those problems is completed.

Meanwhile, Michehl Gent, president of the North American Electric Reliability Council, who also spoke at the Sept. 4 Energy and Commerce hearing, said initial analysis of data taken from the system logs of the various utilities involved in the blackout shows that the IT infrastructure at various points throughout the regional grid wasn't recording critical events properly.

"Each event, which might be a relay or circuit-breaker operation or an electrical fault, is time-stamped as it occurs," said Gent. "Many of these time stamps were not accurate because the computers that recorded the information became backlogged or the clocks from which the time stamps were derived had not been calibrated to the national time standard."

In a related development, Rep. Edward J. Markey (D-Mass.), a senior member of both the House Energy and Commerce Committee and the Homeland Security Committee, sent a letter on Aug. 22 to the U.S. Nuclear Regulatory Commission requesting information on the effect the January outbreak of the Slammer worm had on the systems that control FirstEnergy's Davis-Besse nuclear power plant.

"It may be too soon to know whether the Blaster worm was involved in [the Aug. 14] blackout," wrote Markey. "However, it is clear that cybersecurity was deeply flawed at the Davis-Besse nuclear reactor just a few months before the blackout occurred." ◗

MORE ONLINE

Our complete Blackout 2003 coverage is available online:

QuickLink a3550
www.computerworld.com

Firms Unite to Fight Online ID Theft

BY JAIKUMAR VIJAYAN

Key IT vendor and e-commerce players last week said they're forming a coalition to fight online identity theft — a development that coincided with the release of a Federal Trade Commission report showing identity theft to be pervasive and growing.

The Coalition on Online Identity Theft was formed by the Information Technology Association of America, an Arlington, Va.-based IT vendor trade organization, along with Microsoft Corp., several security vendors and such e-commerce heavyweights as eBay Inc. and Amazon.com Inc.

The FTC, meanwhile, found that identity theft accounted for nearly $48 billion in losses to businesses over the past five years. More than 27 million Americans have been victims of identity theft during that period, and nearly 10 million of those fell victim last year alone, the FTC said.

"For several years, we have been seeing anecdotal evidence that identity theft is a significant problem that is on the rise. Now we know. It is affecting millions of consumers and costing billions of dollars," said Howard Beales, director of the FTC's Bureau of Consumer Protection.

Kevin Pursglove, a spokesman for coalition member eBay in San Jose, said that for the past year eBay has been dealing with hackers who have spoofed its Web site or sent forged e-mails to eBay users in an attempt to extract confidential information.

ID Protection

The Coalition on Online Identity Theft plans to do the following:

- Promote technology to deal with online identity theft.
- Expand public education campaigns that address online identity theft.
- Share information about emerging fraudulent activities to improve detection and response.
- Work with government to ensure stronger penalties for cyberthieves.

SOURCE: INFORMATION TECHNOLOGY ASSOCIATION OF AMERICA

"The complaints from users have increased over the past six to nine months," Pursglove said. "We began hearing of the same issue from other companies and realized the issue was not going to subside."

The "firepower" that the coalition can bring to bear will go a long way toward addressing some of the issues relating to identity theft, said Brendan Lewis, a spokesman for Mountain View, Calif.-based coalition member VeriSign Inc.

Even though online ID theft is growing rapidly, almost 75% of ID theft still occurs off-line by means of such activities as "Dumpster diving," said John Pescatore, an analyst at Stamford, Conn.-based research firm Gartner Inc. ◗

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BPA ABM RED TAG

FRANK HAYES ■ FRANKLY SPEAKING

Rogues? Hardly

ENOUGH WITH THE NAME-CALLING ALREADY! "Rogue IT" — cases where users have launched their own IT projects without inviting the IT department to the party — doesn't deserve that insulting name. *Rogue* implies that these users are unprincipled scoundrels or at least way out of line when they do IT themselves.

But they're not. They're doing the very messy, very necessary job of fixing business processes in near real time. We can't do that. We don't have the budget or the staff we'd need. We also don't have the intimate knowledge of the actual business processes, which change a lot faster than our systems can.

Business on the front lines is chaotic. Users have to cope with it. When the systems that IT implements don't do the job, users have to work around the problems. And when users see ways of automating those work-arounds using the consumer-grade technology they have access to, that's what they do.

They're not rogues. They're not out of line. They're just trying to survive.

Are there any IT projects that deserve the label "rogue"? Sure. When a non-IT executive or manager launches an IT project in order to pump up his budget and make himself look more important, that's a real rogue project — it's all about politics and self-promotion, not what's good for the business.

But that's not why most users do IT themselves. They come up with their own spreadsheet-based applications and script-based automation because they need specific process fixes right now, not a rough approximation of them in six months.

They plug in wireless LAN access points because it takes days or weeks for IT to let them move a desk or plug a new employee into the network. They hire their own application service providers because the IT department drags its feet and wants to rejigger the requirements, the terms and most of all the schedule for getting it up and running.

They want to use IT to make some small piece of the business run more efficiently and effectively. So they do it themselves — in the simplest, quickest way possible, with the most direct solution to the problem. And they do it entirely focused on the real business process.

That's why their project success rates compare favorably to those of our "real" IT projects, according to a recent *Computerworld* survey [QuickLink 40666]. When it comes to implementing a business process change, they know exactly what they're doing.

Of course, when it comes to creating IT that's scalable, maintainable and compatible with what we've already got, they're usually clueless.

That's where we come in. And the first thing we usually say is no. No, you shouldn't have done that. No, that won't scale up. No, it won't integrate with our existing systems. No, we've never done it that way before.

Hey, there are good reasons why we say no. We're understaffed and underfunded. We see all the complexity and work that will be required. We know our whole infrastructure is old and brittle, and it's a full-time job just to keep it running, never mind bolting on one weird, difficult, user-conceived addition after another.

And there are also not-so-good reasons: We're irritated that they stomped all over our turf, embarrassed that they got something working faster than we could have, bent out of shape because everybody is so impressed with their clever little hacks.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

But we can't control the business needs these users are adjusting to. And we can't change our systems as fast as they need us to.

Users can. And they will.

So before you make your plans for dealing with user-initiated IT projects, understand this: Inconvenient or just plain miserable as it may be for us, these users are doing what's right for the business.

They're not rogues. And we really ought to stop calling them names. ◗

Paging Common Sense . . .

Mission-critical Windows NT server goes down in the wee hours, and none of the NT admins answers a page, so a support tech has to come in at 4 a.m. The downtime costs thousands of dollars. What happened? "In a cost-cutting effort, someone changed the pager plan to a limit of 500 pages per month, which had been reached," sighs pilot fish on the scene. "And instead of a plan where additional pages would be 25 cents, they saved a few pennies by cutting off all additional pages."

SHARK TANK

How to Save

This IT pilot fish is puzzled when he spots an old acquaintance in the building – a programmer who was laid off a year before, when the company retired its Honeywell mainframes. "When I asked him, he told me that he had been hired to support a conversion of the Honeywell applications to IBM mainframes," says fish. "Turned out that our newly hired VP of IS had spotted these no-longer-needed systems on inventory and was going to 'save' money by converting them to IBM."

Call the Teamsters

This college bookstore's point-of-sale computer needs upgraded software to connect to its printer and bar-code scanner. And pilot fish thinks that's what he's asking for when he calls the vendor's support department and says, "I need to see if you can help me find some drivers for a bar-code scanner and a receipt printer." After a long pause, techie tells fish, "Well, we sell the software – but we really don't provide any transportation services."

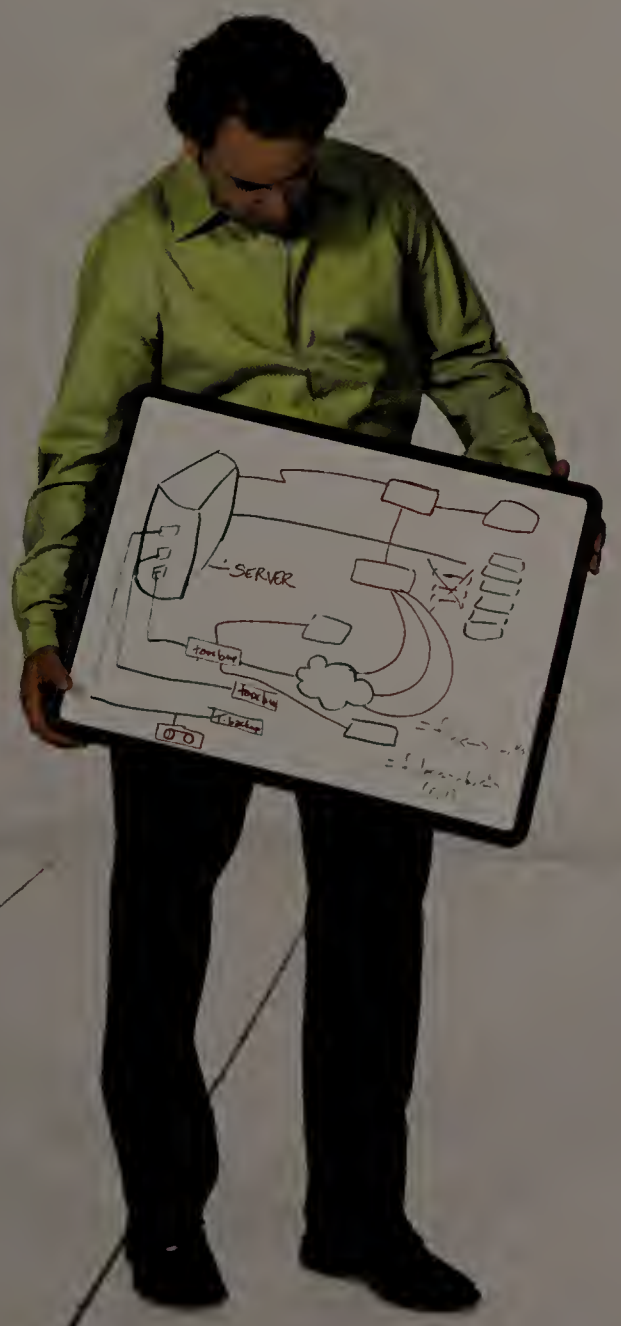
Leftovers

In the early 1980s, techie at this Army data center is pulling a bulky cable from beneath the raised floor when he snags another cable and takes down the mainframe. After that, the IT manager tells staffers to abandon all old cables under the floor. Result: Within months, so many unused cables have accumulated that no new equipment can be added, says a pilot fish there. "So over a long weekend, we removed all the equipment, reinstalled everything – and disposed of hundreds of pounds of unused cables."

Security Max

User can't get onto the Web, so he calls his ISP's help desk. "After checking all the normal things, I asked him if he had activated the Windows XP firewall," says support pilot fish at the ISP. "He had. I asked if he had configured it properly, and he assured me he had. I asked him how, exactly, and he said a friend had advised him – for maximum security – to set all ports to deny both inbound and outbound traffic."

FEED THE SHARK! Send your true tale of IT life to **sharky@computerworld.com**. You snag a snazzy Shark shirt if we use it. And check out the d[illegible] feed, browse the Sharkives and sign up for Shark Tank ho[illegible]e d[illegible]ry at **computerworld.com/sharky**.



I can't pull all-nighters every night.

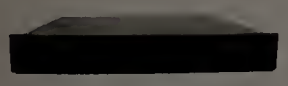
Thing is, our backup and recovery system has to.

It can't rest.

Not even for a second.

Not if I hope to get some myself.

Save the day.



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